

Université de Montréal

The Development and Validity of a Functional Assessment Instrument for  
Persons with Major Mental Disorders

par

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Thèse présentée à la faculté des études supérieures

En vue de l'obtention du grade de

Philosophiae Doctor (Ph.D.)

En psychologie

février 2003

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Université de Montréal

Faculté des études supérieures

Cette thèse intitulée:

The development and validity of a functional assessment instrument for  
persons with major mental disorders

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## Abstract

The principal objective of this study is to develop a valid and reliable assessment instrument that measures functional life skills in persons with major mental disorders. Other goals include the examination of the association of life skills with clinical and personal characteristics, and an exploration of the relationship between the various life skills and the number and length of rehospitalizations, measured during a 12-month follow-up.

Studies of life skills have been conducted mostly on social abilities, resulting in very few investigations on basic self-care and related daily living skills. Most of these studies have been accomplished with persons suffering from schizophrenia, and very few have included other major mental disorders. To date, an assessment instrument that demonstrates good psychometric properties and that exclusively measures functional life skills is lacking.

The Functional Life Skills Assessment (FLSA) consists of 76 items that were voted upon by various mental health professionals, regarding their importance to independent community living. A total of 150 consecutively discharged persons from an inpatient psychiatric ward of a general hospital, who responded to the inclusion criteria, and who were diagnosed with a major mental disorder participated in this study. Each participant was evaluated using the FLSA, within a period of two weeks of discharge from hospital. Thirty percent of the participants were included in the inter-rater reliability study, while another 30% were evaluated a second time for the test-retest reliability study. The participants' clinical and personal characteristics were

noted, and each person was followed up for 12 months after discharge.

The FLSA showed high inter-rater and moderately low test-retest reliability. The construct, content, and predictive validity were found to be satisfactory. The results showed that the women scored significantly higher than the men on the total FLSA score. Significant associations between subscale scores, gender, and diagnosis were also observed. The total score did not differentiate between the rehospitalized and non-rehospitalized participants, but two subscale scores did, namely, those belonging to the Milieu Maintenance and Money Management subscales. Logistic regression analysis revealed that the Milieu Maintenance subscale, together with the number of previous hospitalizations, and civil status were significant predictors of rehospitalization.

The FLSA is an instrument that is reliable and valid, easy to use by health care professionals, and applicable to persons with a variety of acute and chronic forms of major mental disorders. The FLSA is pertinent to helping take decisions regarding the appropriate community placement of these persons, because it indicates which deficits in functional life skills they possess. Accurate and thorough functional assessment of persons with major mental disorders paves the way for achieving independent community living abilities, including the acquisition of work skills for potential self-sufficiency.

## Résumé

Des études des habiletés fonctionnelles chez les personnes ayant des troubles mentaux sévères ont été menées principalement concernant les habiletés sociales. Conséquemment, il existe peu d'études concernant les habiletés fonctionnelles dans les activités de la vie courante. La plupart des études ont été conduites auprès de personnes souffrant de la schizophrénie et un minimum de projets a inclut d'autres troubles mentaux sévères. De plus, un instrument d'évaluation qui démontre des propriétés psychométriques fidèles et valides, et qui mesure exclusivement les habiletés fonctionnelles dans les activités de la vie courante chez ces personnes reste à développer.

L'objectif principal de cette étude fut justement de développer un instrument de mesure valide et fidèle par rapport aux habiletés fonctionnelles dans les activités de la vie courante chez les personnes souffrant de troubles mentaux sévères. Plusieurs autres objectifs ont été poursuivis. Premièrement, nous avons étudié la relation entre les habiletés fonctionnelles de la vie quotidienne et les caractéristiques cliniques et personnelles. Deuxièmement, nous avons examiné la relation entre les habiletés fonctionnelles et le nombre et la durée des réhospitalisations. Ces données furent recueillies dans le cadre d'un suivi de douze mois.

Le *Functional Life Skills Assessment (FLSA)* a été développé et comprend 76 items. Ces items ont été sélectionnés à partir du vote d'un groupe constitué de divers professionnels de la santé mentale. Ce groupe devait identifier les habiletés les plus importantes pour permettre un

fonctionnement autonome dans la communauté. L'échantillon de cette étude incluait 150 personnes qui ont reçu leur congé définitif consécutivement d'une unité d'hospitalisation psychiatrique et qui ont répondu aux critères d'inclusion. Chaque participant a été évalué par le *FLSA* dans les deux semaines suivant le congé définitif de l'hôpital. L'accord inter-juge a été testé avec 30% de l'échantillon, tandis qu'un autre 30% a été évalué une deuxième fois afin d'étudier la fiabilité test-retest. Les caractéristiques cliniques et personnelles furent notées, et chaque participant fut suivi pendant les 12 mois suivant le congé. Le *FLSA* a démontré un accord inter-juge élevé et une fidélité test-retest modérément basse. La validité prédictive, de construit, et du contenu s'est avérée satisfaisante. Les résultats globaux du *FLSA* ont démontré que les femmes ont obtenu des cotes significativement supérieures à celles des hommes. Des associations significatives entre les cotes des sous-échelles, le sexe et le diagnostique furent aussi observées. La cote globale n'a pas permis de distinguer les participants réhospitalisés des non-réhospitalisés. Cependant, les cotes de deux sous-échelles, celles de l'*Entretien du milieu* et du *Budget* ont démontré des différences entre ces deux groupes. La sous-échelle *Entretien du milieu*, avec le nombre d'hospitalisations antérieures, et le statut civil se sont révélés des prédicteurs significatifs de réhospitalisation.

Le *FLSA* s'est montré fidèle et valide en tant qu'outil, applicable aux personnes atteintes de divers troubles mentaux sévères, qu'ils soient aigus ou chroniques. Il fournit une évaluation précise et complète des habiletés



fonctionnelles dans les activités de la vie courante. Les informations fournies par cette évaluation facilitent le placement des personnes souffrant des maladies mentales graves dans des ressources communautaires appropriées. Le *FLSA* ouvre la voie à l'acquisition des capacités nécessaires pour vivre d'une façon autonome dans la communauté et vraisemblablement à l'apprentissage des habiletés de travail pour une autonomie future.

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## Dedication

To Sender, who is still always present, and to my family.

## Acknowledgements

The author wishes to express appreciation to her thesis advisor, Dr. Sheilagh Hodgins, professor of the Department of Psychology, *Université de Montréal*, for her invaluable advice and suggestions in the preparation of this document.

Sincerest gratitude and indebtedness to Dr. Urs Maag, professor, and to Mr. Michel Lamoureux, statistician and computer expert, both formerly of the *Département d'informatique et de recherche opérationnelle, Université de Montréal*, without whom the statistical analyses could not have been executed. Mme Denise Desjardins, *Université de Montréal*, Julie Lamoureux, at the *CHUM* and Mme Marie Désy, at the *Centre de recherche Fernand-Seguin*, also deserve a special mention for their statistical consultations.

The author wishes to express her appreciation to the entire staff of the Department of Psychiatry, at *Hôpital Notre-Dame (HND)(CHUM)*, particularly the nursing staff on the inpatient unit, who took a special interest in this project, and whose continued support and collaboration made the study truly possible. Among these are: Mathilde Brillon, Marcelline Michel, Lise Vézina, Bernadette Benoit, Rene Massé, Sylvie Jolicoeur, Thérèse Remarais, Luce Clouthier, Gilles Savaria, and Gabrielle Ménard, on days. The evening shift is equally notable: Suzanne Larocque, Serge Dion, Daniel Letendre, John Walsh, Lorraine Boucher, and Rose-Emma Blanchet. Even the receptionists working on the inpatient unit lent a competent and helping hand, namely,

Francine Talbot, Louise Arsenault, and Diane St. Pierre. If I have forgotten anyone, please forgive me.

The secretarial, nursing, and medical personnel in the outpatient clinic were very involved and constantly prepared to contribute. Thank-you to: Gisèle Laforest, Linda Doucet, Ginette Daigneault, Chantale Provençal, Francine Dussault, Lise Raymond, Dylhia Merlet, Thérèse Bourdon, Andrée Tâché, and Rollande Bédard. All of your contributions were veritably significant. To Drs. Guérette, Émond, Marier, Fontaine, St. Denis, Claveau, Filion, Leblanc, Ménard, and Albert, please accept my appreciation for your involvement and preparedness to respond to my requests. Marie-Andrée Gagnon, of the medical records department at *HND*, played a crucial role in the data collection, and managed to always keep her smile and bright disposition.

A heartfelt thank-you to the occupational therapists with whom I had the distinct pleasure of working closely, namely, Lucie Sgroi, and Lucie Hébert, at *HND*. Your constant support, suggestions, enthusiasm, and readiness to co-operate over the years, were key to this project. I was fortunate indeed to have the privilege of consulting with you at the best, and at the worst of times. Thanks also to the other occupational therapy staff and to Françoise Bernard and Regis Pearson, both formerly head occupational therapists at *HND*, who lent their ingenuity and filing cabinet. Mme Huguette Greffe, faculty member of the *École de réadaptation, Université de Montréal*,

started the whole ball rolling. In spite of our busy schedules, you remained inspirational.

A particular thank-you to the librarians of *HND*, Louise Deschamps, Réjeanne Burke, Pierre Mercier, Sylvie Paiement and André Allard, who were actively involved and interested. You frequently found ways to respond to my needs and requests, above and beyond the call of duty.

Many other staff and health professionals, both at the *CHUM* and at the Institute of Family and Community Psychiatry of the Jewish General Hospital Centre, gave of their time and energy to this project, but are too numerous to name. Lucie Lamarche, executive assistant at Traumaty's was constantly prepared to lend her time, energy, and moral support, without any hesitation.

Finally, to my immediate and extended family, deep thanks. Several of you are no longer with us, but deserve credit in any case. To my dear boys, Adam, Jeremy, and their dad, Mirek, I'm fortunate you understood. To you all, let us try to retrieve the time!

Partial funding for this research was received from the *Centre de recherche, CHUM*. Dr. Rasio, I deeply thank you for the opportunity you accorded me.

## Introduction

This thesis was undertaken in order to develop a valid and reliable instrument to measure self-care and daily living skills of persons suffering from major mental disorders. In the past, functional life skills have been considered a part of every adult's daily repertoire and reports on the measurement or training of these specific skills have been scarce. Recent developments in the mental health field suggest that functional levels are as important as symptoms for determining appropriate treatment regimes.

Most studies of life skills to date have focused almost entirely on social abilities. Self-care and functional daily living skills have rarely been considered as a distinct set of skills and their significance has frequently been underestimated. As a result, some investigations have included self-care and related daily skills, but have covered them as either a single item or as very few items on rating scales (Velligan et al., 1997). There are many more reports in the literature on programs, which emphasize the psychosocial aspects of life skills (Dobson, 1996; Leclerc, Lesage, Ricard, Lecomte, & Cyr, 2000; Lecomte et al., 1999; Wallace & Liberman, 1985), than life skills themselves.

The majority of these studies have been conducted with persons suffering from persistent and chronic mental disorders, and have excluded persons with less chronic disorders, but who also present impairments in life skill functioning (Ferdinand, van der Reijden, Verhulst, Nienhus, & Giel, 1995; Jablensky et al., 2000; Robinson et al., 1999). Moreover, instruments

designed to assess life skills have usually been developed with persons suffering from only one form of major mental disorder, most often schizophrenia. These studies assume that the assessment is applicable to persons with other disorders. Many of the assessment instruments lack good psychometric qualities, and very few of them measure self-care and other daily functional skills exclusively.

The thesis begins with a brief discussion of the major mental disorders, their prevalence and course, and the significant but often ignored role of functional life skills in the course and outcome of these disorders. Morbidity and mortality rates, as well as treatment policies and practices are presented. The thesis continues with a discussion about the correlates of life skills and the relation of life skills to functional outcome. Since the available instruments for assessing life skills do not adequately measure basic life skills, the goal of the thesis was to develop an instrument to evaluate these skills that can be used with persons who suffer from a variety of major mental disorders.

The present investigation includes three studies. Study I examines the content validity of a series of life skills items measuring various life skills that could constitute an instrument. Study II tests the feasibility of a functional life skills assessment instrument designed to assess mentally disordered persons in hospital and community settings, and measures the inter-rater reliability. Study III completes the examination of inter-rater reliability of the instrument, measures the test-retest reliability, completes the evaluation of the content validity, investigates both construct and predictive validity, examines the

associations of demographic (gender, age, education, civil status, financial status) and personal (age of illness onset, number of previous hospitalizations, diagnosis) antecedents with life skills scores, and explores the relationship between the various life skills and the number and length of rehospitalizations, measured during a 12-month follow-up period.

The following discussion presents the major mental disorders and life skills, and reviews existing instruments that assess life skills.

## THE MAJOR MENTAL DISORDERS

### Definition of major mental disorders

The term major mental disorder is synonymous with Axis I diagnoses of schizophrenia, schizoaffective disorder, major depression, bipolar disorder and delusional disorder (American Psychiatric Association, *Diagnostic and statistical manual of mental disorders*, 4<sup>th</sup> ed.). These syndromes are debilitating and in most cases persistent (Angst, 1987; Eaton et al., 1992a; Goldberg, Harrow, & Grossman, 1995; Liberman & Evans, 1985; McGlashan, 1988; Westermeyer, 1985), requiring frequent hospitalizations (Appleby et al., 1996; Liberman, 1986). On a functional level, individuals with major mental disorders show notable impairments, which exacerbate their occupational, economic, and personal situations (Klapow et al., 1997; Lyness, Caine, Conwell, King, & Cox, 1993; MacQueen et al., 2000; Pridmore, Hornsby, Hay, & Jones, 1994). Besides limitations in role and occupational functioning (Judd, Paulus, Wells, & Rapaport, 1996; Velligan et al., 1997), they also display a loss of interest in activities, and gross deficits in personal hygiene,

grooming, and other functional life skills (Lieberman, Massel, Mosk, & Wong, 1985; Calvocoressi, Libman, Vegso, McDougale, & Price, 1998; Laroche, Hodgins, & Toupin, 1995). Major mental disorders frequently prevent individuals from establishing and maintaining relationships (Lieberman et al., 1985; Lukoff, Snyder, Ventura, & Nuechterlein, 1984), often resulting in significant social isolation (Richards, Smith, Harvey, & Pantelis, 1997). This last aspect may be affected not only by severe personality disorganization (Strauss, Bowers, Keith, & Carpenter, 1983), but also by a lack of social skills and neglect in basic personal hygiene and grooming abilities.

#### Life skills among persons with major mental disorders

Many persons with major mental disorders find the independent accomplishment of daily tasks a complicated challenge. Mental or emotional symptoms prevent the development, or cause disintegration of functional capacities essential to daily living (Willer & Guastaferrro, 1989). Life skills dysfunction frequently provokes rejection and prejudicial attitudes from the rest of society, often causing persons with major mental disorders to further isolate themselves and to slip into marginal lifestyles. Deficits in daily living skills, which accompany major mental disorders, frequently result in demands for multiple services from health care givers.

An inability to support oneself autonomously leads to dependence on other resources. Life skills limitations in persons with major mental disorders are predictive of difficulties in independent community living (Husted & Fick, 1998), resulting in high relapse and rehospitalization rates.



### Relapse and rehospitalization

Relapse can be defined in a variety of ways, but “the return of a disease after apparent or partial recovery” (Lader, 1995, p. 5), implies a negative turn of events, whether hospitalization is an ensuing occurrence or not. Individuals with major mental disorders remain unpredictable in nature (Goldberg et al., 1995; Postrado & Lehman, 1995), and frequently present non-compliance with their prescribed medication or treatment on follow-up, which affects relapse and rehospitalization rates (Killaspy, Banerjee, King, & Lloyd, 2000; Nelson, Maruish, & Axler, 2000; Olfson et al., 2000).

Hogarty and Ulrich's (1998) studies have shown that approximately 40% to 50% of persons with schizophrenia relapse within one year of treatment and 75% within five years of hospitalization. Others have reported a rehospitalization rate as high as 58% within one year of treatment (Caton, 1981). Some long-term investigations with participants suffering from schizophrenia have shown an eventual drop in rehospitalization rates (Eaton et al., 1992b); other long-term studies could not accurately predict whether rehospitalization is probable, but concluded that early (versus late) onset of schizophrenia has a poorer prognosis, with associated higher rates of rehospitalization (Haro, Eaton, Bilker, & Mortensen, 1994; Harrison, Crudace, Mason, Glazebrook, & Medley, 1996; Soni, Gaskell & Reed, 1994). In a five-year follow-up study of persons with various major mental disorders, the relapse rate for those with schizophrenia was 71%, compared to 59% for those with bipolar disorder and 48% for persons with major depression

(Daniels, Kirkby, Hay, Mowry, & Jones, 1998).

### Financial burden of major mental disorders

Relapse, rehospitalization and/or placement of non-functional mentally disordered persons in supervised community resources place heavy burdens on the health care system and on society as a whole (Rice, 1999). In 1990, schizophrenia, with the lowest lifetime prevalence rate of all the major mental disorders, cost an estimated \$32.5 billion (Rice, 1999). Another estimate put the cost of readmission within two years of discharge for individuals with schizophrenia at about two billion dollars in the U.S. (Weiden & Olfson, 1995).

In Canada, the overall financial burden of schizophrenia in 1996 was estimated at \$2.35 billion (Goeree et al., 1999b), including the costs of premature mortality (loss of gainful productivity due to death) and morbidity (loss of productivity due to illness). For the same year, 342 preretirement deaths and another 102 deaths were attributed to schizophrenia, directly or indirectly by suicide, at a cost of 1.53 million in lost productivity (Goeree et al., 1999b; Goeree, O'Brien, Blackhouse, Agro, & Goering, 1999a). Rice (1999) points out that mean income losses specifically due to schizophrenia are highest during the age period when most individuals are most productive. In 1996, nearly two-thirds of the Canadian costs for schizophrenia was for younger persons aged 20 to 45 years old (Goeree et al., 1999b). In spite of medical advances in neurophysiology and medications, the costs are staggering. The impact of chronicity and functional impairment associated with major depression, for example, is huge when costs due to health care,

suicide, and lost work days are considered: estimated costs are from \$43.7 to \$52.9 billion in the United States alone (Pincus & Pettit, 2001).

Improving low functional levels in persons with major mental disorders could impact positively on the course and outcome of their disorder. Acquisition of basic life skills could help increase autonomy in daily activities, enhancing the potential for independent community living. As well, the likelihood for self-sufficiency through gainful employment may also be increased. "For individuals with mental disabilities, seeking employment is often critical to recovery. Self esteem, social support, community involvement, and finding meaning in life are enhanced by obtaining work...an essential part of one's psychosocial well-being" (Hunter, 1999, p. 109). But occupational capacities rely on rudimentary living skills, which, if not acquired, may hinder work-related tasks. The need for basic life skills is evident: self-care and grooming abilities must be adequate to at least begin striving towards functional and occupational independence. Life skills assessment and rehabilitation are imperative to: (1) improve self-care and other basic skills; (2) help foster more complete recovery from functional limitations which accompany mental disorders; and (3) enhance independent community living and build a foundation for potential work skills.

### Prevalence and Course of Major Mental Disorders

#### Schizophrenia

The essential features of schizophrenia are disturbances which last at least 6 months, and which include a mixture of positive and negative

symptoms that are present for a significant portion of time during a one-month period. The signs and symptoms are associated with social and/or occupational dysfunction (*DSM-IV*, 1994).

Prevalence. Estimates of lifetime prevalence rates of schizophrenia vary between 0.5 -1.0% (*DSM-IV*, 1994; Narrow, Rae, Robins, & Regier, 2002) and 1.5% (Walkup & Gallagher, 1999). Prevalence rates appear to be similar throughout the world. The prevalence rates of schizophrenia do not differ between women and men, but there are differences in onset and course.

Gender and onset. The majority of studies report that men experience an earlier onset (early to mid-20's; *DSM-IV*, 1994), have poorer premorbid adjustment (Andia et al., 1995), longer hospital stays, higher relapse rates, and generally, a more severe course of the disorder than women (Angermeyer, Goldstein, & Kuehn, 1989; Burack & Zigler, 1989; Goldstein, 1988; Haro et al., 1994; Navarro, van Os, Jones & Murray, 1996; Sham, MacLean, & Kendler, 1994; Szymanski et al., 1995). However, a report of the preliminary results of the Northern Finland 1966 birth cohort study (Rasanen, Veijola, Hakko, Joukamaa, & Isohanni, 1999), did not reveal a significant gender difference in schizophrenia's age of onset.

For women, a bimodal distribution in the onset age of schizophrenia has been reported, with early and later (between age 40 – 45 years old) onset types (Hafner & an der Heiden, 1997; Sham et al., 1994). The International Late-Onset Schizophrenia Group identified late-onset for both genders (after

40 years of age) as well as very-late-onset schizophrenia (after 60 years of age), phenomena that have implications for clinical utility (Howard, Rabins, Seeman, & Jeste, 2000). Caution is needed in the generalization of sex differences in the onset and course of such a heterogeneous disorder with further systematic studies needed across all age groups of inpatients and outpatients (Andia et al., 1995; Jablensky, 2000).

Recently, the concept of anticipation has been introduced, that is, the increase of this disorder's severity and the decrease in the age of onset in successive generations (Bassett, & Honer, 1994; Bassett & Husted, 1997; Heiden et al., 1999; Stompe, Ortwein-Swoboda, Strobl & Friedmann, 2000). Indeed, Stompe et al. showed that younger cohorts have onset approximately 10 years earlier in sporadic and familial cases. Age of onset has been widely related to a poorer course and outcome, with earlier onset predicting more hospitalizations, and a lower level of future functioning (Bromet et al., 1996; McClellan & McCurry, 1999; Vetter & Koller, 1996).

Course and outcome. Most studies report a negative course and outcome in schizophrenia (Meltzer, 1999; Mojtabai et al., 2001). Psychosocial and occupational functioning are considerably impaired (Bromet et al., 1996; Gupta et al., 1997; Harrow, Sands, Silverstein, & Goldberg, 1997), and high rates of relapse have been reported (Haro et al., 1994; Haywood et al., 1995; Soni et al., 1994). Some argue that even though more than two-thirds recover from an initial episode, most will experience further episodes and after a long course, will present with chronic functional impairments (Breier, Schreiber,

Dyer, & Pickar, 1991; Bottlender, Wegner, Wittmann, Straub, & Moller, 1999; Lieberman, 1998).

By contrast, other studies report that nearly 30% of the affected individuals recover completely or have one remission, while another one-third suffer from minor residual symptoms (Doering et al., 1998). Eaton et al. argue that, "progressive deterioration does not describe the process as accurately as progressive amelioration" (Eaton et al., 1992b, p. 240). Carpenter and Strauss (1991) followed the Washington IPSS cohort and concluded that schizophrenia tends to plateau early in its course, with as many people improving in the long-term as those who show further deterioration. Unfortunately, the sample includes only 40 individuals. Very long-term studies have shown better outcome than shorter-term ones (Harding, Brooks, Ashikaga, Strauss, & Breier, 1987). Recently, course and outcome have been reported as more favourable than was previously believed, particularly when early intervention takes place to short-circuit the accumulation of persistent symptoms and impairments (Harrison et al., 2001; Huber, 1997; Lieberman et al., 2001). This latest shift in position concerning course and outcome heralds a new optimism about the impact of treatments in the beginning stages of the disease. Early intervention in schizophrenia can improve psychosocial functioning and reduce relapse rates, particularly in younger persons (de Haan, Linszen, & Gorsira, 1998).

As compared to men, women are characterized by more social protective factors, and appear to benefit from the shielding role of estrogen

(Bottlender et al., 1999; Evenson, Meier, & Hagan, 1993). This results in better premorbid functioning and a less severe course of the disorder (Angermeyer et al., 1989; Doering et al., 1998; Goldstein, 1988). Women also display a better psychosocial and functional outcome than men (Andia et al., 1995; Harrison et al., 1996; Hintikka, Saarinen, Tanskanen, Koivurnaa-Honkanen, & Viinamaki, 1999).

Course and outcome in schizophrenia have been associated with premorbid functioning (Bailer, Brauer, & Rey, 1996; Goldstein, 1988; Smith et al., 1997), age of onset (Eaton et al., 1992a; Husted & Fick, 1998), duration of untreated psychotic symptoms (Lieberman et al., 2001; Malla, Norman, Manchanda, & Townsend, 2002), positive versus negative symptoms (Craig, Fennig, Tanenberg-Karant, & Bromet, 1999), compliance with medication and treatment follow-up (Killaspy et al., 2000; Nelson et al., 2000), previous hospitalizations (Vetter & Koller, 1998), genetic loading (Erlenmeyer-Kimling et al., 1997), structural brain changes and abnormalities (DeLisi, Sakuma, Ge, & Kushner, 1998; Lieberman, 1998; Lieberman et al., 2001; Lohr, Alder, Flynn, Harris, & McAdams, 1997), and finally, as previously mentioned, with gender (Bottlender et al., 1999; Smith et al., 1997). It is difficult to draw conclusions from studies on the course and outcome of schizophrenia due to differences in methodologies and samples. These include: short follow-up periods (Malla et al., 2002), versus more long-term ones (Harding et al., 1987), sampling variations with participants who suffer from a chronic disorder versus those experiencing only a first episode (Malla et al., 2002),

and different functional assessments and outcome measures.

### Schizoaffective disorder

This disorder is barely described in the literature, but is frequently included in studies on schizophrenia. Schizoaffective disorder's essential feature is a continued period of illness, during which time there is a major depression, manic, or mixed episode concurrent with symptoms for schizophrenia. There are also delusions and hallucinations for at least 2 weeks, in the absence of prominent mood symptoms. These mood symptoms are present for a good portion of the total duration of this disorder (*DSM-IV*, 1994).

Prevalence. While exact prevalence rates are unknown, schizoaffective disorder is thought to be considerably less common than schizophrenia (*DSM-IV*, 1994).

Course and outcome. The affective component is considered beneficial to the disorder's course (Burack & Zigler, 1989), resulting in a better social and functional outcome than in schizophrenia (Doering et al., 1998; *DSM-IV*, 1994; Harrison et al., 2001; Harrow, Grossman, Herbener, & Davies, 2000). Nevertheless, the course and outcome of schizoaffective disorder remains heterogeneous. Maj and Perris (1990) showed that persons with this disorder suffering from a bipolar type of symptoms, with pure affective episodes (more rare) have the same outcome as individuals with major affective disorders. Those with schizodepressive and/or schizophrenic episodes (more frequent) have a significantly poorer outcome than persons with a major affective



disorder. A higher level of premorbid functioning has also been associated with better overall performance in persons with schizoaffective disorder than among persons with schizophrenia (del Rio Vega & Ayuso-Gutierrez, 1990). Marneros, Deister and Rhode (cited in Rhode & Marneros, 1992) have shown that this disorder is recurrent, with lasting functional impairments.

### Bipolar disorder

This disorder is marked by a disturbance in mood, with episodes of mania, hypomania, and major depression (*DSM-IV*, 1994).

Prevalence. The prevalence rate of bipolar disorder (Type I and II) ranges from 0.4 to 1.6% in community samples (*DSM-IV*, 1994; Narrow et al., 2002). A higher estimate of 2% has also been demonstrated (Zarate, Tolen, Land, & Cavanaugh, 2000). Whereas women and men are equally affected by Bipolar I disorder, more women are affected by Bipolar II disorder (Hilty, Brady, & Hales, 1999). Age of onset is negatively associated with psychotic features and with low functional levels, particularly in daily life tasks (Meeks, 1999). A later age of onset in women has generally been reported (Burack & Zigler, 1989; Evenson et al., 1993).

Course and outcome. Bipolar II disorder is reported to have a more pessimistic course and outcome than Bipolar I disorder (Benazzi, 2001; Leibenluft, 1997). In spite of better premorbid adjustment and more positive subsequent functioning, as compared to persons with schizophrenia (Bromet et al., 1996), the outcome for persons with any type of bipolar disorder is not as favourable as previously believed (Goldberg et al., 1995; MacQueen et al.,

2000; Zarate et al., 2000). Regier et al.'s (cited in Hilty et al., 1999) ECA study showed that bipolar disorder is associated with the highest risk of any Axis I disorder for co-morbidity with substance abuse disorder. Individuals with concomitant personality disorders (which are often linked with alcohol and drug misuse) show poorer outcome after discharge from an index hospitalization for bipolar disorder than those who do not have an Axis II disorder (Dunayevich et al., 2000). Besides genetic factors and a positive family history of major mental disorder, a more negative course and outcome for bipolar disorder are associated with significant psychosocial stressors. Stress may provoke an early onset and faster cycling patterns, both of which contribute to a more negative outcome (Kupka et al., 2001).

Gender differences. Women generally experience more acute episodes of depression, rapid cycling, and more mixed episodes than men, resulting in longer treatments, particularly since the depressed phase is less disruptive and is rarely caught in the early stages (Robb, Young, Cooke, & Joffe, 1998). A delay in treatment for the depressed phase and/or difficulties in stabilizing mixed episodes leads to a more noxious course and outcome for bipolar disorder, particularly in women. This disorder is marked by multiple relapses (Bromet et al., 1996; *DSM-IV*, 1994; Goldberg et al., 1995), with the risk of rehospitalization greatest immediately following discharge (Daniels, et al., 1998). The recurrence rate of bipolar disorder has been reported to be 1.6 times higher than that for major depression (Kessing & Andersen, 1999). Bipolar disorder is variable in its course, but tends to become chronic,

especially if the first observed period begins with depression (Turvey et al., 1999).

Functional impairments. Functional impairments associated with bipolar disorder are relatively recent findings. Life skills deficits are evident after multiple relapses, and perhaps earlier (MacQueen et al., 2000). Even after a first hospitalization, residual deficits were found to already exist in participants diagnosed with bipolar disorder (Keck, McElroy & Strakowski, 1998). Others have also reported similar results. Tsuang, Woolson, and Fleming (1979) found that up to one-quarter of participants with bipolar disorder presented occupational impairments 30 years after an initial manic episode. Functional deficits in individuals with bipolar disorder have been reported in the Stanley Foundation Bipolar Network project by a majority (62%) of participants who stated that their occupational functioning was seriously limited (Kupka et al., 2001). Laroche et al. (1995) discovered that men with bipolar disorder demonstrated impairments of several life skills and social functioning, even during asymptomatic periods. Compared to individuals with unipolar or subthreshold depression, persons with bipolar disorder were reported to display more serious functional impairments (Furukawa et al., 2000). This latter study included only six participants. In another study, women with bipolar disorder self-reported more functional impairments than men, although no significant gender differences in the degree of functional impairment as measured by GAF scores were found (Robb et al., 1998).

Zarate et al. (2000) reviewed a number of studies published from 1979 to 2000, and concluded that individuals with bipolar disorder continue to show functional impairments even when asymptomatic. Most persons with bipolar disorder manage to retain their social relationships so that impairments in basic functional life skills are much less evident. Nevertheless, persons in manic or hypomanic episodes often display haphazard and careless performance in money management and other daily life tasks. Relearning lost functional skills or the acquisition of new ones is pertinent for this population, in spite of the generally held belief that they maintain high functional levels (Bromet et al., 1996; Zarate et al., 2000).

#### Major Depression

This disorder is defined by a period of at least 2 weeks of a depressed mood or a loss of interest in almost all activities. The symptoms include changes in appetite or weight, sleep, psychomotor activities, plus low energy, feelings of worthlessness or guilt, difficulties in thinking, concentrating, decision making and memory, recurrent thoughts of death or suicide, and finally, impairments in social and occupational spheres (*DSM-IV*, 1994).

General prevalence. Major depression is the most common major mental disorder (Kessler et al., 1994). Depression is the fastest-growing reason Canadians go to a physician. Between 10% and 20% of Canadians experience depression (Sokoloff, 2001). In 2000, Canadians had 7.8 million medical consultations for depression, up from 5.7 million in 1995, "...putting the disorder ahead of diabetes, acute respiratory infections, anxiety, ear

infections, bronchitis and asthma among reasons for doctor's visits" (Sokoloff, 2001, p. A-1). As compared to the past when depression was more prevalent among older adults than younger ones, a reversal has been noted: now it is most prevalent among youth and younger adults (Beaudet, 1999).

Gender, prevalence, onset and course. Since the 1950's, younger women have shown increasing rates of major depression, while the age of onset has continued to decline (Peden, Hall, Rayens, & Beebe, 2000). Approximately twice as many women as men between the ages of 12 and 64 reported symptoms of depression in the National Population Health Survey, conducted in three cycles: 1994-95, 1996-97, and 1998-99 (Beaudet, 1999). In the 15- to 19- year old group, the prevalence rate of depression for females was almost double that of males (Cairney, 1998). The lifetime prevalence rate for women is 20% and for men 12% (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993). A cross-national epidemiological study in 10 countries consistently found an increased rate of major depression in women, across countries (Weissman et al., 1996).

No sex differences are reported in the course of depression (Kessler et al., 1993), except for an earlier age of onset in women (Pajer, 1995). Due to earlier onset, the course is longer for women than for men. Women with major depression have been found to experience more readmissions and to spend more days hospitalized than men (Daniels et al., 1998). Early-onset major depression has been related to a more malignant course, with more hospitalizations and longer episodes, and with a tendency for more co-morbid

disorders due to depressive personality traits (Klein et al., 1999). Major depression ultimately becomes a chronic state, with a less favourable outcome than expected (Kiloh, Andrews, & Neilson, 1988; Kovacs, 1996; Pridmore et al., 1994).

Generally, initial remission rates for major depression are high, but longer-term outcome is poor, due to high relapse rates, chronicity, mortality, disability, and functional impairment (Ramana et al., 1995). Severity and duration of the disorder as well as inadequate medication are associated with negative outcome. Recovery for persons with major depression is on a level above persons with schizophrenia (poorest), but below those with bipolar disorder (best), therefore mid-way between the two disorders (Bromet et al., 1996).

Functional impairments. Among persons with major depression, levels of functioning have been found to be quite poor. Studies conducted in parallel in three countries with primary care patients showed consistently more serious functional impairment in participants with major depression, as compared to those with minor or no depression (Froom, Aoyama, Hermoni, Mino, & Galambos, 1995). Primary care patients suffering from major depression showed poorer levels of functioning (carrying out normal duties, including work) and a significantly greater use of all health services, as compared to those with other depressions or none at all (Goldney, Fisher, Wilson, & Cheek, 2000). Even persons with subsyndromal major depressive symptoms have demonstrated functional impairments, including more days in

bed, poor job functioning, and poor health (Judd et al., 1996). The functional impairments found in persons with subsyndromal major depressive symptoms have been found to equal that seen in major depression (Judd, Schettler, & Akiskal, 2002). Major Depressive Disorder (MDD) is expressed over time by fluctuating symptom severity levels and includes depressive subtypes which are not discrete disorders, but which are more stages along a continuum of symptomatic severity (Judd et al., 2002). Ongoing residual subsyndromal symptoms during recovery periods after an episode of major depression indicate that the disorder has not fully remitted and that the risk of relapse and a severe chronic future course of major depression is increased. "There is strong evidence that all levels of depressive symptom severity of unipolar MDD are associated with significant psychosocial impairment, which increases significantly and linearly with each increment in level of symptom severity" (Judd et al., 2002, p. 696). Functional impairments due to major depression have rarely been examined.

#### Delusional disorder

Delusional disorder is defined by the presence of one or more nonbizarre delusions that persist for at least 1 month, auditory or visual hallucinations which are not prominent, but tactile or olfactory ones may be present (*DSM-IV*, 1994). Little information exists on this disorder.

Prevalence. The prevalence of delusional disorder is estimated to be approximately from 0.05% to 0.1% (*DSM-IV*, 1994).

Onset, course and outcome. The age of onset is reported to be in

middle to late adult life, but can occur at a younger age (*DSM-IV*, 1994). Individuals with this disorder often retain a higher functional level than those with other major mental disorders. In fact, one of the diagnostic criteria for delusional disorder specifies that, apart from the impact of the delusion, functioning is not severely impaired (*DSM-IV*, 1994). Psychosocial functioning is however, variable, and depends on individual differences. Nevertheless, in comparison with persons diagnosed with schizophrenia and affective disorders, those with delusional disorder were found to have an outcome which was in between the other two (Jorgensen, 1994a), with mediocre GAF scores and a heterogeneous course (Jorgensen, 1994b).

In summary, major mental disorders are highly prevalent in the general population and affect a vast number of individuals, with estimates as high as 15 - 20%. By far the most common disorder is major depression, which often remains undiagnosed. Specific symptoms as well as lasting impairments in basic life skills accompany these disorders, resulting in low functional levels. Due to the number of people who are affected, major mental disorders have significant personal, social and economic costs, and put a tremendous strain on the health care system (Pincus & Pettit, 2001).

#### Morbidity and mortality rates in major mental disorders

Physical co-morbidity. The existence of concomitant disease (morbidity) and mortality rates due to physical illness are higher in persons with major mental disorders than in the normal population (Baldwin, 1980; Koryani, 1979; Lesage, Trapani, & Tansella, 1990; Mortensen & Juel, 1990;



Tsuang & Woolson, 1977). Indeed, studies have found a high rate of lifetime medical conditions in persons with schizophrenia: 65% confirmed at least one lifetime medical condition, while 36% had more than one lifetime condition (Dixon, Postrado, Delahanty, Fischer, & Lehman, 1999). The multiplicity of medical conditions was also significantly associated with more psychosis and depression and with a greater likelihood of attempted suicide. Felker et al. reviewed 20 studies on medical co-morbidity and mortality in persons with major mental disorders and reported that up to 93% of the samples studied had medical problems that warranted further investigation; 35% harboured undiagnosed medical disorders (Felker, Yazel, & Short, 1996). Many other examples of associations between mental disorders and medical disorders can be found in the literature (Baldwin, 1980; Cassidy, Ahearn, & Carroll, 1999; Dixon et al., 1999; Koryani 1979; Richards et al., 1997).

Premature death and excess mortality. Major mental disorders have been linked to premature death. For example, Tsuang and collaborators reported that the survival time of participants with major mental disorders was shortened by approximately ten years, as compared to a control group of surgical patients (Tsuang, Woolson, & Fleming, 1980). A significantly increased risk of premature death in a sample of persons with major mental disorder has also been reported, with an observed mortality rate of 65% higher than for the general population of England (Baxter, 1996). A more recent study for the World Health Organization Determinants of Outcome of Severe Mental Disorders in Chandigarh, India, found an excess rate of

mortality in persons diagnosed with a poor course of schizophrenia over the span of 2 years (Mojtabai et al., 2001). These persons presented psychotic symptoms for most of the time, as rated at the 2-year follow-up.

In Western societies, major mental disorders are the second cause of premature mortality and loss of productivity due to illness, surpassed only by cardio-vascular disease and followed by cancer (Rapport annuel, Régie régionale de la santé et des services sociaux de Montréal-Centre, 2001). Major mental disorders have been associated with excessive numbers of deaths and illnesses, oftentimes caused by neglect or even denial of serious medical conditions (Brown, Inskip, & Barraclough, 2000; Kunkel, Woods, Rodgers, & Myers, 1997; Schneider, Muller, & Philipp, 2001). Deficiencies in basic life skills, which prevent detection of signs and symptoms of disease, contribute to these negative circumstances. Additionally, many persons with major mental disorders have lifestyles that do not foster health, including poor nutrition, little exercise, and smoking.

Depressed individuals are more likely to die following a heart attack than non-depressed persons (Glassman & Shapiro, 1998). Besides physiological mechanisms which promote coronary heart disease in these individuals (excess platelet production in depressed persons), mortality rates may be associated with deficits in life skills. Incapacities to deal with “life saving” techniques, such as proper nutrition and a balance between exercise, rest and leisure activities endanger these persons. Even when medical treatment recommendations are made to depressed persons, they are three

times as likely to be noncompliant, as compared to non-depressed individuals, putting themselves at greater risk of poor health outcomes (DiMatteo, Lepper, & Croghan, 2000). Similar studies with persons suffering from major mental disorders have supported noncompliance with medical treatments as a maladaptive response that jeopardizes their health (Kunkel et al., 1997).

Poor attention, low self-awareness of physical signs and symptoms, and an inability to self-monitor medication, treatment or preventive regimes have been postulated as exacerbating the person's condition (Dixon et al., 1999), leading to unwarranted death. Hence, the deficits in self-care skills of persons with major mental disorders may be associated with excess rates of mortality and premature death. For example, such individuals do not seek early intervention for life threatening or infectious disease symptoms. As well, persons with major mental disorders are generally less concerned with personal health problems and may not know how to search for proper medical care (Saku et al., 1995). Black and Winokur (1985) proposed that mental disorders may actually hasten the development of physical illness. Hence, improving self-care skills in mentally disordered persons might be a matter of life and death (Adler, Drake, & Stern, 1984).

Suicide and accidental death. A higher than normal rate of premature death has been found among persons with schizophrenia. Indeed, estimates as high as 10% of all suicides in Canada have been attributed to schizophrenia (Goeree et al., 1999a). Excess mortality rates for persons

suffering from depressive disorders as well as schizophrenia have also been related to suicide (Black et al., 1985; Radomsky, Haas, Mann, & Sweeney, 1999). Nearly one-half of patients admitted for suicide attempts in Canada have a primary diagnosis of an Axis I disorder. Among people who successfully committed suicide, it has been estimated that 90% suffered from depression or another mental disorder (Langlois & Morrison, 2002).

The prevalence of suicides and accidents was reported to be higher among persons with schizophrenia, bipolar disorder and major depression than in the general population (Saku et al., 1995; Simpson & Tsuang, 1996; Tsuang et al., 1980). The excess mortality was prevalent particularly in the first decade of follow-up (Simpson & Tsuang, 1996). Black and associates (1985) found that suicide and accidental deaths were responsible for two-thirds of the excess deaths in their Iowa sample. Moreover, 99% of these excess deaths occurred within two years of discharge from a treatment facility. Similarly, Tsuang et al. (1980) also reported high rates of suicide in a study of participants with major mental disorders, whereby suicide accounted for 50% of the deaths in the men and 35% in the women. Quebec reported the highest suicide death rate of all the provinces in 1998-99 and the lowest national hospitalization rate for attempted suicide (Langlois & Morrison, 2002).

In summary, deficits in life skills can condemn individuals to marginal functioning and lead to "a catastrophic and often permanent loss of functioning" (Fenton & McGlashan, 1991, p. 983). Impairments associated

with major mental disorders include: interruptions in social and occupational functioning, fluctuations in community tenure, and dependence on mental health resources. Functional impairments are also linked to high relapse and rehospitalization rates, as well as to an excess of medical disorders and mortality. Poor self-care and other basic life skills ultimately have a negative impact on the person's capacity for independent community living, and result in heavy burdens on the health care system. The deficits in question can also shorten life. The acquisition of basic life skills may prove to be invaluable in detecting early symptoms of either life-threatening or potentially chronic diseases in individuals with major mental disorders.

#### Treatment Policies and Practices

The last four decades have been devoted to de-institutionalizing persons suffering from major mental disorders. This has been partly due to developments in the social and political spheres, for example, movements in anti-psychiatry (Laing, 1965; Silverman & Saunders, 1981) and radical politics (Agel, 1971; Brown, 1973; Goldenberg, 1978), and to the upsurge of self-help groups. The community was first identified in the 1960's and 1970's as the only natural milieu in which persons suffering from mental disorders could achieve more adaptive behaviour (Boudreau, 1986; Carpenter, 1978). The expectation was that these individuals would be able to spend more time outside the hospital, because their natural milieu would stimulate desired behaviours. Since the implementation of de-institutionalization, readmission rates have remained consistently high (Daniels et al., 1998).

Concurrently, the downsizing of psychiatric hospitals and wards in general hospitals has been undertaken as a response to financial constraints (Reinharz, Lesage, & Contandriopoulos, 2000b). A five-year follow-up study in England of long-stay psychiatric patients discharged into the community reported no adverse outcomes (Leff, Thornicroft, Coxhead, & Crawford, 1994). Even though persons with major mental disorders discharged into community resource settings can meet with some success, few resources offer training in daily life skills that in turn, limits autonomy (Lesage, Morissette, Fortier, Reinharz, & Contandriopoulos, 2000). The long-term effects of placing patients in community resources have not been clearly identified to date, particularly since community organizations have not yet supplanted the hospital as a *bona fide* supplier of services (Reinharz, Contandriopoulos, & Lesage, 2000a). In a Nordic study of individuals suffering from schizophrenia who were living in the community, participants reported that their subjective needs and perceived help were inadequate, and that they required practical aid in basic life skills such as, "looking after home", "money" and "food", (Middelboe et al., 2001).

Relapse and readmission rates remain high as community mental health teams are under resourced (Benoit & Lesage, 1999). The risk of readmission is still considerable for particular subgroups of persons with major mental disorders, one of which includes young males, with early onset and multiple previous hospitalizations (Appleby et al., 1996). Since early onset is also associated with poor functional levels, attempts to arrest

chronicity and prolonged impairments through early intervention and prevention have come into the forefront of mental health concerns (Addington, 2000; Duffy, 2000).

#### Recent developments

The number of psychiatric beds in Quebec in 1995 was one per 1000 inhabitants, double the number in most other Canadian provinces (Lesage et al., 2000). Plans call for a reduction of the number of beds by 50% over the next five years (Lesage et al., 2000). The Quebec Ministry of Health and Social Services has announced plans to execute its strategic 2001-2004 policy aimed at more prevention, treatment and rehabilitation for mentally disordered persons; depression and suicide are specifically targeted in this project (Conseil médicale du Québec, 2001).

In the recent past, mental health services have been influenced by the following phenomena: (1) the continued placement of persons with major mental disorders into the community; (2) an increase of community programs and interventions aimed at making the move back into society as seamless as possible, keeping the person's needs and aims in mind; (3) widening the concept of community adjustment and focusing on independence, productivity, and satisfaction; (4) consideration of functional limitations in various spheres, such as work/school, family roles and obligations, community involvement, and functional activities of daily life (Schalock et al., 1995).

### Prevention strategies

Primary prevention strategies are applied before onset, targeting the population at risk. Secondary prevention takes place at an optimal time in order to short circuit symptomatology and its possible prolonged effects, while tertiary prevention deals with personal and environmental adaptation to residual deficits in functioning (Addington, 2000), allowing a person to reach a maximal level of independence and fulfillment in his/her life. Strategies for relapse prevention (a component of secondary prevention) have become prominent in treating persons prone to exacerbation of their symptoms (Herz et al., 2000).

Given that the readmission rates for persons with major mental disorders have remained high, given that treatment policies highlight symptom reduction and shorter hospitalizations with emphasis on community care and functioning, and given that prevention strategies are recognized as essential aspects for the maintenance and acquisition of functional autonomy, it follows that the assessment of life skills and the training to improve life skills should play an important part in community treatment. Evaluation and teaching of life skills needed for independent community living could help reduce demands on mental health services and resources.

Neuroleptic medication reduces or eliminates positive symptoms in most persons, but its introduction has not substantially diminished rehospitalization rates (Goldberg, Schooler, Hogarty, & Roper, 1977; Haywood et al., 1995; Hogarty & Ulrich, 1998; Wallace, 1993). Even though



the “second-generation” of antipsychotic medication has been shown to reduce hospitalization rates in some individuals (Conley, Love, Kelley, & Bartko, 1999), avoidance of, and a further decrease in readmissions remains a serious issue in the field of mental health (Husted & Jorgens, 2000; Nelson et al., 2000). Neuroleptic medications reduce symptom severity, but they do not modify functional levels in persons with major mental disorders, nor do they impact on deficits that affect skill performance (Huxley, Rendall, & Sederer, 2000; Meltzer, 1999). Since rehospitalization rates of persons with major mental disorders have remained high, in spite of pharmacological treatments, a plausible hypothesis is that deficiencies in basic life skills are associated with readmission. Lack of compliance with medication and treatments as well as an incapacity to recognize precursors of symptom resurgence may be the result of poor basic self-care skills (Lieberman & Evans, 1985; Lieberman et al., 1985; Hintikka et al., 1999).

If maladaptive self-care skills result in increased symptom severity, then the likelihood of continued community tenure is greatly decreased. By the same token, if other functional skills are deficient, such as budgeting or proper maintenance of the person's milieu, these inadequacies may provoke negative responses from the surrounding human environment. For example, being forced to leave an apartment because of non-payment or infestation of insects due to neglect could cause high levels of distress and subsequent relapse, with ensuing rehospitalization or homelessness. Moreover, if functional skills are not assessed and (re)acquired, either during the time in

hospital or in the community, the living situation of the person may very well change. In all probability, placement in a (more) supervised milieu will be recommended, instead of independent living. "Low rates of functional recovery underscores the importance of including functional assessments...with more attention to those who are not progressing rapidly toward functional as well as syndromal recovery" (Zarate et al., 2000, p. 324).

Unlike symptoms, functional limitations are not treatable by medication alone, but are amenable to specific training and re-education to help individuals manage their daily self-care and other life tasks more effectively. In order to alleviate the unfavourable outcome of major mental disorders, accurate assessment of functional capacities is imperative, so that deficiencies in basic life skills can be detected and corrected. Persons suffering from low functional levels can improve their abilities and heighten their autonomy. Early and accurate assessment of deficits and strengths in affected individuals can provide direction for appropriate intervention, with the aim of preventing further disability.

In summary, early treatment and intervention programs are essential to improve the course and outcome of major mental disorders (Carpenter, 1998; Jorgensen et al., 2000). Avoiding an accumulation of symptoms and functional deficits is imperative (de Haan et al., 1998; Lieberman et al., 2001). Functional impairments are now beginning to be considered as equally significant markers as symptoms. Accurate assessment of both symptoms and psychosocial functioning is necessary for deciding which interventions

are best suited for this population. Although certain scales such as the GAS (Endicott, Spitzer, Fleiss, & Cohen, 1976) have been widely used to assess functional impairment in numerous studies, more refined and complete measures of specific life skill performance are presently lacking.

## LIFE SKILLS

### Definition

Life skills include the abilities to care for oneself, and to participate in self-care, leisure, and work activities. They also include the capacity to create and sustain relationships. Life skills contribute to an individual's survival in the fullest sense when he or she is attempting to live in some form of community (Hadzi-Pavlovic, Rosen, & Parker, 1992). Life skills or activities of daily living have also been defined as "all those activities that one must engage in or accomplish in order to participate with comfort in other facets of life. They are all those other things an individual must do to engage successfully in work, recreation, and family interaction" (Mosey, 1986, p. 69). Performance in simple and multi-dimensional life skills, which make up the repertoire essential to fulfilling daily needs and responsibilities, determines the person's functional level. The ease, competency, and speed with which one completes these tasks illustrate the functional level, usually described in finite terms: high, medium or low.

### General Considerations

Since the ability to engage in life skills is one of the benchmarks of a

mature adult, it is taken for granted and given very little attention. It is “an unconscious part of identity” (Mosey, 1986, p. 71). Only when this capacity is disturbed or lost due to dysfunction or disorder, does it become noticeable and significant. The importance of basic life skills is heightened when the performance of these skills cannot be accomplished autonomously and successfully. This implies either dependence on others or not completing them. Non-achievement of certain life skills can be life-threatening, as in the case of medication or treatment nonadherence, for example, leading to cancer, diabetes or kidney complications. Noncompliance with treatment regimes may affect self-destructive and assaultive behaviours, which can be life-threatening as well.

Most studies focus on coping and social skills (Leclerc et al., 2000; Lecomte et al., 1999; Liberman et al., 1998) and very few examine functional skills that are associated with independent living. Major mental disorders negatively impact the capacity to perform functional skills in an autonomous and efficient manner. Economic self-sufficiency requires some of the most sophisticated life skills, but remains unattainable if the more basic skills of self-care and related tasks are absent or deficient. Accurate assessment of deficits and strengths is imperative before interventions to foster independent living can be implemented. “Only through a comprehensive evaluation can rehabilitation be properly planned” (Manschreck & Leighton, 1992, p. 180).

### Correlates

A search of MEDLINE, PsycINFO, and Current Contents databases,

using the terms “life skills”, “activities of daily living”, “functional level”, “psychosocial skills”, with “correlates” yielded very few results. A review of studies already in hand revealed that gender (Hintikka et al., 1999), diagnosis (Calvocoressi et al., 1998; Walkup & Gallagher, 1999), specific symptoms (Norman et al., 1999), and neurocognitive deficits (Green, 1996; Velligan et al., 1997) have been found to be associated with life skills and community functioning.

Gender. Most studies have found that women as compared to men with schizophrenia display better premorbid psychosocial adjustment, are more likely to live independently, are less socially impaired, and generally have a less negative course and outcome (Goldstein, 1988; Hafner et al., 1998; Navarro et al., 1996). Few studies have compared functional life skills such as homemaking and budgeting of men and women with schizophrenia. One study examined 302 outpatients with schizophrenia and found that 56% of the men and 33% of the women lacked independent skills for at least one functional activity (Hintikka et al., 1999). The men were more often limited than the women in personal hygiene, homemaking, and in managing their financial affairs.

In another rare investigation comparing men and women with schizophrenia (within and between genders) on functional life skills, older men with schizophrenia were as likely as younger and middle aged men with the same diagnosis to be able to shop, handle money, do chores, get out, and perform personal care tasks (Walkup & Gallagher, 1999). The largest difference

observed among the men was in the ability to handle money, with older men reporting more limitations than younger and middle aged men. In contrast, among women with schizophrenia, functional limitations increased over time. Older women were more likely than younger women with schizophrenia to report limitations in handling money, getting out, and shopping. When women and men with schizophrenia were compared, living alone was positively, but not significantly, associated with functional limitations (getting out, handling money, shopping) for men, but it was not associated with limitations among women. Older men were twice as likely to report limitations in their ability to handle money than were older women with schizophrenia. A somewhat higher percentage of older women than older men reported limitations in their ability to do chores and to go shopping (Walkup & Gallagher, 1999). Therefore, although women with schizophrenia are generally reported to be more functionally independent than men with the same diagnosis, this pattern changes with age. On a social level, however, women with schizophrenia reported fewer limitations in making and keeping friends than men.

These results identify gender differences in the severity and type of daily life skills limitations, particularly for older persons with schizophrenia. The findings suggest that as the baby boomer generation ages, increasing numbers of individuals with schizophrenia will require help due to limited life skills. Although functional limitations are consistent for these persons across the lifespan, they are different for men and women at different stages of their lives.

Other gender differences have been reported by Moriarty et al. (2001),

who examined persons with schizophrenia and poor outcomes. While there were no significant gender differences in cognitive functioning or in specific adaptive life skills, the women performed better than the men on all tests. The male participants displayed significantly more severe negative symptoms than the females, suggesting that their overall performance in life skills may have in fact, been more impaired.

Life skills acquisition has been reported to be associated with gender and with other individual differences. Most investigations have found that women have better life skills abilities than do men. Men and women with schizophrenia also show different patterns of social skills, skill improvement, and social adjustment after participating in psychosocial training programs, with women displaying more positive results than men (Smith et al., 1997). It is to be noted that in Smith et al.'s study, the women had significantly fewer negative symptoms, implying, as previously mentioned, that negative symptoms may be inversely related with the performance of life skills. Generally, life skills acquisition and execution appear easier for women than for men with schizophrenia.

Diagnosis. Schretlen et al. (2000) argue that functional disabilities, or poor life skills are part of the diagnosis of schizophrenia, but are not necessarily related to having psychotic symptoms. A diagnosis of schizophrenia is more significant than the presence or absence of psychotic symptoms in predicting functional disability, specifically through cognitive manifestations. Their findings imply that: (1) the positive relationship between schizophrenia and functional

impairments is not simply due to the effects of having a psychotic disorder; and that (2) other major mental disorders that include psychotic symptoms, may lead to fewer functional impairments than schizophrenia. Since a decrease or a disturbance in psychosocial functioning is a criterion for diagnosing most major mental disorders (all but delusional disorder), Schretlen et al.'s premise remains interesting. Neurocognitive and functional impairments in schizophrenia are hypothesized to be closely related to negative symptoms and to a lack of insight, hence Schretlen et al.'s (2000) conclusion is similar to that of others, who underline symptoms (Norman et al., 1999).

Walkup and Gallagher (1999) compared functional disabilities of persons with schizophrenia and with bipolar disorder. Those with schizophrenia were significantly more limited than those with bipolar disorder in work, chores, handling money, going out of the house, and shopping, all essential daily living activities. There were no differences between those with schizophrenia and those with bipolar disorder on measures of personal care. In addition, persons with schizophrenia were more likely to have limited social networks and were significantly less likely to be married than those with bipolar disorder. In another study, Calvocoressi et al. (1998) reported that persons with schizophrenia were significantly more impaired on measures of global functioning than those with major depression.

Although functional impairments are detected among persons with each of the major mental disorders, the most frequent and severe deficits in functional capacities are observed among individuals with schizophrenia.



Symptoms. Negative symptoms of schizophrenia have been linked to impairments in life skills and have been found to be stronger predictors of community functioning than neurocognitive deficits (Dickerson, Ringel, & Parente, 1999; Norman et al., 1999). Negative symptoms of schizophrenia were also found to be significantly associated with olfactory identification deficits, so that the higher the negative symptom score, the greater the olfactory ability impairment (Brewer, Edwards, Anderson, Robinson, & Pantelis, 1996). By the same token, olfactory deficits were significantly associated with social behaviour deficits, as measured by the Life Skills Profile (LSP). These results infer that self-care skills in some persons with schizophrenia may be limited due to olfactory deficits; these individuals remain malodorous while also suffering from negative symptoms. Participants with schizophrenia were found to have reduced olfactory acuity, as compared to depressed participants, who did not differ from a control group. It would appear that symptoms, especially negative symptoms in schizophrenia, are closely associated with life skills deficits. Before drawing definite conclusions from this study, it is important to point out two limitations: (1) women were excluded from the investigation; and (2) the LSP assessment is not reliable.

Symptoms of disorganization have been found to be particularly stronger predictors of functional outcome than either psychomotor poverty or reality distortion. Norman et al. (1999) suggest that in past studies, symptoms may not have predicted community functioning because acute rather than residual symptoms (after treatment) were used. But in their own study, these authors

use primarily correlational analyses to determine the role of symptoms versus cognitive measures in functional outcome. Correlations merely point out the degree to which a relationship or association exists between variables, but do not indicate causality (Olson, 1987), nor do they have predictive powers, as the authors stipulate.

Neurocognitive deficits. Recent studies have focused on the functional consequences of neurocognitive deficits of persons with schizophrenia (Green, Kern, Braff & Mintz, 2000). Green (1996) reviewed 16 studies that examined the relationship between functional outcome and neurocognitive deficits among persons with schizophrenia. Although the studies reviewed included both outpatients and inpatients and used different measures of neurocognitive and psychosocial functioning, results indicated that certain neurocognitive measures are more strongly related to functional outcome than are symptoms of psychosis. The results of others have also supported this view (Brekke, Raine, Ansel, Lencz, & Bird, 1997; Schretlen et al., 2000). Velligan et al. (1997) reported two studies (one that included both men and women, and one that included only men) suggesting that cognitive deficits underlie deficits in activities of daily living. But in one of these studies, only three items were used to measure cognition, while the other study examined a small sample. In addition to studies of community functioning, life skills acquisition has also been positively related to neurocognitive capacities, specifically verbal memory and vigilance, but not to psychotic or negative symptoms (Green, 1996).

It is noteworthy that relatively few studies have examined participants

with major mental disorders other than schizophrenia, particularly since the acute stages of first episodes of other major mental disorders can also cause impairments in daily functioning (Keck et al., 1998; Robinson et al., 1999). Ferdinand et al. (1995) found that 75% of a young adult sample with symptoms meeting criteria for major mental disorders suffered from functional impairments, as measured by GAF scores below 61. The majority of these participants with *DSM-III-R* disorders and GAF scores below 61 suffered from affective disorders, but had not been referred for treatment. Since early onset of major mental disorders is associated with poor premorbid functioning (Bottlender et al., 1999; Goldstein, 1988), Ferdinand et al.'s sample included individuals at the point of or already past the prodromal period. In populations at risk, functional life skills impairment might be among the significant predictors of potential onset. Another correlate of life skills deficits might therefore be age of onset of major mental disorders (Husted & Fick, 1998).

In summary, correlates of life skills remain limited by the methodological features of the studies. These limitations are: the inclusion of only participants with chronic schizophrenia (Velligan et al., 1997), small sample sizes, inclusion of mostly one gender, usually men, (Brewer et al., 1996; Calvocoressi et al., 1998; Norman et al., 1999; Velligan et al., 1997), the use of assessments that lack psychometric qualities or that are inappropriate (Brewer et al., 1996; Norman et al., 1999; Schretlen et al., 2000), and retrospective procedures (Calvocoressi et al., 1998; Schretlen et al., 2000). The latter procedures are problematic, because they use data collections from files and are unreliable

and produce errors in measurement.

### Life skills training programs

To further understand life skills, a cursory review of the training programs that have been reported is necessary. The acquisition of life skills by chronic mentally disordered persons is recognized as a valid and necessary aid in enhancing positive outcome.

While training programs emphasize independent performance of life skills (Brown & Munford, 1983; Heinssen, Liberman, & Kopelowicz, 2000; Klasson & MacRae, 1985; Liberman, Kopelowicz, & Young, 1994; Maslen, 1982; Nelson & Condrin, 1987; Radonsky, Jackson, Barton, Fedak, & Martin, 1986), self-care and daily living skills have usually been inserted within a broader training program for social skills (Brown & Munford, 1983; Glazer, Aaronson, Prusoff, & Williams, 1980; Glynn & Mueser, 1986; Liberman & Evans, 1985; Liberman et al., 1998). As a result, there is a dearth of information on programs that assess and train individuals suffering from major mental disorders exclusively in basic life skills such as personal hygiene and milieu maintenance. These abilities have been generally overlooked or minimized in rehabilitation studies, and often, they have been included in a single score on scales used to assess psychosocial functioning (Hintikka et al., 1999), such as the Global Assessment of Functioning Scale (GAF) (American Psychiatric Association, 1994).

Little or no effort has been made to teach basic personal hygiene and milieu upkeep life skills *per se* to chronic mentally disordered individuals,

since these were believed to have already been acquired (Brown & Munford, 1983). Nor have these skills been considered important among acutely ill patients, since symptoms are the principal focus of mental health professionals' attention. It is interesting to note that learning task-oriented and functional abilities has been shown to be more effective in increasing community tenure than have interventions focusing on verbal (social) interactions (Linn, Caffey, Klett, Hogarty, & Lamb, 1978). Therefore, life skills acquisition and performance are important factors in maintaining independent community living.

Heinssen and colleagues (Heinssen et al., 2000) reviewed clinical trials that evaluated the impact of psychosocial skills training for persons with schizophrenia, suggesting that: (1) participants can be taught a wide range of social and basic life skills; (2) social skills training has a positive effect on participants' perceptions of themselves, but only a modest effect on symptoms, relapse, and rehospitalization; and (3) learned skills can be generalized to familiar environments, but less consistently to new environments. Others have reached similar conclusions, and have found outcomes to be variable. Persons with major mental disorders have the ability to learn the skills they are taught, but the learned material does not often generalize to other situations or different areas of their lives (Baronet & Gerber, 1998). Additionally, the long-term outcomes of skills training have not yet been addressed, despite some evidence that trained skills can be maintained over time. Psychosocial skills training programs have been

reported to be more effective in improving life skills deficits than other treatments (Lieberman et al., 1998). It has also been shown that learned skills improve social functioning and are retained for at least a year after acquisition (Lieberman, Kopelowicz, & Young, 1994).

Despite claims of the positive effects of life skills training, conclusions from these studies are limited due to small sample sizes, the inclusion of mostly men, high attrition rates of the participants (Halford, Harrison, Kalyansundaram, Moutrey, & Simpson, 1995; Smith et al., 1996; Wong et al., 1988), the use of assessments with little proof of reliability or validity (Smith et al., 1996), and training programs that targeted a limited number of skills, and followed participants for only short periods (Wong et al., 1988).

The study by Lieberman et al. (1998) compared the community functioning of 80 male outpatients with chronic schizophrenia after treatment with social skills training versus "psychosocial occupational therapy". Participants were randomly assigned to treatment in one of the two conditions for 6 months and subsequently followed for 18 months in the community. Those who had received skills training demonstrated significantly greater independent living skills during a 2-year follow-up than the group who received psychosocial occupational therapy. This study has evoked heated reactions within occupational therapy circles, around the world (Tsang, 2000).

Lieberman et al.'s (1998) study has at least five serious weaknesses. One, women are excluded from their investigation. Two, the experimental and control situations are not comparable. The social skills training condition

cannot be contrasted with expressive, recreational, and artistic activities, which the authors identify as “psychosocial occupational therapy”: psychosocial occupational therapy includes skills training for persons with major mental disorders that aims at fostering independent community living. In fact, this approach has become a standard treatment modality in mental health occupational therapy. “As many, if not most, occupational therapists use skills training as one of their treatment modalities, it does not make sense to compare skills training to occupational therapy” (Tsang, 2000, p. 443). Three, Liberman et al. stipulate that the social skills training staff numbered four, while the occupational therapy staff numbered three. The staff in the social skills training condition was closely monitored, with weekly ratings by a supervisor, who provided regular feedback to the trainers. The trainers also had a manual, a participant’s workbook and a demonstration video at their disposal. The occupational therapy staff was neither monitored nor evaluated and the study does not report on the use of manuals or any specific didactic material for the control condition. Four, Liberman et al. report results based mostly on favourable findings, for example, reported improvements in life skills were found on only one assessment, namely the Independent Living Skills Survey (ILSS), and not on the other evaluations used in the study. Although the ILSS is psychometrically sound, it evaluates mostly motivation and not the ability to perform functional tasks, independently or with help. Finally, during the follow-up period, the significant differences between the groups actually decreased. Hence, claims of psychosocial training programs

having long-term positive impacts on independent living are questionable.

In summary, knowledge of the correlates of life skills remain limited due to the methodological weaknesses of studies that address this question. Similarly, conclusions from evaluations of training programs, which attempt to encourage life skills acquisition, are also limited.

#### Life skills and course and severity of major mental disorders

Few studies have focused on the relation between functional life skills and the course and severity of major mental disorders. Previous investigations have defined outcome in diverse ways, and have used different time spans for follow-ups, ranging from one or two years (Breier et al., 1991; Goldman et al., 1993) to longer terms, in extreme cases up to 40 years (Harding et al., 1987; Tsuang et al., 1979). Comparisons of outcome from these studies are difficult due to the highly varied length of time in follow-ups, as well as other methodological differences. These include differing criteria for diagnosing major mental disorders, unclear descriptions of participants, retrospective procedures (which are prone to errors) that review charts mainly from hospital archives, the use of new medications, and variable aftercare treatment. The importance of life skills to outcome has at best been mentioned, and at worst, ignored in most studies.

Investigations of outcome have bypassed associations of life skills with the course and the severity of major mental disorders. Even though life skills play an important role in outcome, the following variables have been associated more directly with outcome than life skills themselves: relapse,



rehospitalization (Doering et al., 1998), community tenure (Jablensky et al., 2000), gender (Robb et al., 1998), the presence of psychotic symptoms, and the length of their duration before treatment (Jablensky et al., 2000; Lieberman et al., 2001; Preston, 2000), neurocognitive deficits, positive and negative symptoms (Addington & Addington, 1993; Breier et al., 1991; Green et al., 2000), homelessness (Munoz, Vazquez, Koegel, Sanz, & Burnam, 1998), and suicide (Goeree et al., 1999a; Hoffmann, 1994; Lesage et al., 1994). Although life skills are sometimes alluded to in these studies, explicit measures of daily living skills are rare.

Definition of outcome. In the following discussion, “outcome” is defined as the course and severity of major mental disorders. Independent community living, the ideal consequence, is defined as “all living arrangements other than an institution (e.g., hospital, jail), a supervised residence, and {homelessness}...it includes living alone, ...with friends,...with family, and any other non-institutional domicile” (van Os et al., 1996, p. 175).

Negative outcome is defined as frequent relapses, rehospitalizations, repeated placements in supervised environments, homelessness, and suicide. Positive outcome is synonymous with living autonomously in the community (including the retention of a shelter), complying with medication and follow-up appointments and treatments, minimal rehospitalizations, and in the best of cases, employment. It is to be noted that independent community functioning is the result of the acquisition and performance of basic life skills (Green et al., 2000). Several questions thus arise: (1) can the acquisition and

effective execution of life skills prolong living in the community; (2) precisely what life skills are required for autonomous community living; and (3) what are the effects of life skills deficits on outcome?

Relapse and rehospitalization. Relapse rates of 40% for persons on medication with major mental disorders (lower among first-episodes and higher among multi-episodes) and 65% at 1-year for those on placebo or drug discontinuation have been reported (Hogarty & Ulrich, 1998). Medication discontinuation, particularly for those who experience a first episode of schizophrenia, substantially increases the risk of relapse. Those who recover from a first relapse tend to have high rates of second and third relapses (Robinson et al., 1999). When we consider that relapse and rehospitalization rates are seriously affected by noncompliance and limitations in self-care, life skills disabilities can be directly associated with negative outcome. Refusing to take medication, forgetting to take medication, or being confused about how to take it are related to functional self-care skills. Besides deficits in self-care skills, not knowing how to plan ahead and how to use treatment services, particularly in times of distress, may also play a key role in affecting relapse or rehospitalization rates (Caton, 1981; Pepper, Kirshner, & Ryglewicz, 1981). Previous hospitalization predicts outcome (Haro et al., 1994; Mortensen & Eaton, 1994; Vetter & Koller, 1998), specifically rehospitalization for persons with schizophrenia (Hoffmann, 1994; Laessle, Pfister, & Wittchen, 1987). Readmission risk increases with the number of previous admissions (Mortensen & Eaton, 1994). In addition, some studies

have found that symptom severity determines the readmission rate (Postrado & Lehman, 1995).

Doering et al. (1998) examined relapse and rehospitalization in a study of persons with schizophrenia and schizoaffective disorder. About one-third (31.6%) were first-admissions. Maintenance neuroleptic treatment best predicted outcome, as compared to targeted use of neuroleptics by progressive discontinuation of medication after clinical stabilization, and crisis intervention treatment (temporally limited use of neuroleptics). Hence, life skills are necessary to ensure appropriate and continued use of prescribed medication that prevents relapse and rehospitalization for persons with major mental disorders. One of the life skills variables in Doering et al.'s study, namely, employment for more than nine months, showed inconsistent results. In one group of participants, it predicted a higher risk of relapse, while in another group, it coincided with a lower rehospitalization rate. Although these results are contradictory and the authors admit, "this discrepancy is hard to interpret" (Doering et al., 1998, p. 96), keeping a job would be indicative of a fairly high level of life skills. Since longer periods of employment are related to lower rehospitalization rates (Bottlender et al., 1999), some of Doering et al.'s results for the employment variable are supported.

In Tsuang and associates' (1979) study, four outcome variables were selected for a comparative long-term study of persons with schizophrenia, mania, depression, and a psychiatrically symptom-free surgical control group (Tsuang et al., 1979). Outcome was defined by marital, occupational,

residential and psychiatric status. Note that the first three variables are indicative of psychosocial and functional life skills capacities. Participants with schizophrenia were found to have the poorest outcome of all the other categories on all the variables; those with affective disorders did better than those with schizophrenia, but worse than the surgery patients on outcome. Some of the methodological shortcomings in this study include: the selection of participants for the different diagnostic groups using archival charts (retrospective procedures) to determine functional levels, and some sampling bias, because single marital status and poor premorbid work history were the optional selection criteria for persons with schizophrenia. The use of archival charts, in spite of the detailed medical records that were kept, may have given rise to some errors, as is usually the case when this procedure is implemented. Nevertheless, Tsang et al.'s investigation shows that functional life skills deficits, particularly in persons with schizophrenia, are closely related to negative outcome.

Schalock et al. (1995) found that persons suffering from major mental disorders who were rehospitalized reported that they performed fewer instrumental activities of daily living on their own, as compared to a group that was not rehospitalized. The authors concluded that functional skill levels, including work status, are as important as personal antecedents in relapse. Other studies have shown that better global functioning levels, including higher levels of community activities, are significantly related to successful independent living (Cook, 1994). Skill levels have been reported to be better

predictors of outcomes than diagnostic or demographic variables; functional skills are significantly related to independence in residential and work settings (Arns & Linney, 1995). Therefore, autonomous life skills performance is strongly related to independent and prolonged community tenure. The higher the functional level, the greater the potential for positive outcome.

Community tenure. Even when independent community living is achieved, under what circumstances is it retained? The National Survey of Mental Health and Wellbeing in Australia (1997-98) examined a sample of persons with major mental disorders living in the community (Jablensky et al., 2000). Impairments in self-care characterized 29.8% of the participants. Over one-half had been hospitalized once or more during the year preceding the study, with approximately 24% reporting two or more admissions. Dysfunctions in daily household activities and in socializing outside the home were present in 49.1% and in 59.1% of the participants, respectively; 72% of the participants were unemployed. While a majority of persons with major mental disorders now live in the community, only a minority "attain a level of functioning and well-being that is commensurate with good quality of life" (Jablensky et al., 2000, p. 235).

For those persons with major mental disorders who display serious limitations in the performance of life skills, residential placement in the community is a possible alternative. Often, an inadequate or low level of life skills functioning may be a determining factor in referring the person to a more structured and restrictive environment (Velligan et al., 1997).

"Rehospitalizations, if they occur, may be shortened by daily living skills learned in these residences" (Carpenter, 1978, p. 395). But placement may not provide satisfactory training to help improve functional levels. In Quebec, many community programs have been implemented but are not adapted or designed to address the deficits of mentally disordered persons (Hodgins & Gaston, 1987; Hodgins, Cyr, & Gaston, 1990). Nor are life skills assessed routinely or rigorously enough to match the community resource with the individual's capacities and limitations.

Gender. Several studies indicate that among persons with schizophrenia, women have a more favourable outcome than men. Both premorbidly (Andia et al., 1995) and after treatment (Smith et al., 1997), women live independently more often and have higher psychosocial functioning levels than men (Navarro et al., 1996; Torgalsboen, 1999). Gender differences have also been found in capacities to live independently after receiving psychosocial rehabilitation services, with a significantly higher proportion of women than men able to live autonomously in the community (Cook, 1994). One of the important variables that are gender related in Cook's study is being a single parent. Women's potential for independent residential status is enhanced by caring for children. It follows that life skills performance for these women would have to be more autonomous than for men, since they are more often responsible for children. If men have an earlier onset of major mental disorders, for example, as in the case of schizophrenia (Goldstein, 1988), then the time and the occasions for learning

and practicing life skills necessary for autonomous community living is decreased. For women, a later age of onset allows for more opportunities to acquire and to practice independent living skills (Cook, 1994).

Although age of onset is later for women than for men, in Robb and associates' (1998) study of participants with bipolar disorder, objective ratings and GAF scores showed no significant differences on functional levels of men and women. Nevertheless, the women obtained lower scores on measures of subjective well-being and functioning. Outcome measures suggested more impairment on functional levels and life quality for these female participants with bipolar disorder. The results however, are limited due to the small sample size, and the retrospective nature of the data collection. Further, the participants were recruited into the study at any point in the course of their disorder and consequently they may have proceeded with the evaluations, including self-reports, during depressive phases of their illness.

Generally, outcome appears to be gender related, with more positive results for women, given their heightened life skills abilities and performance capacities.

#### Presence and duration of psychotic symptoms before treatment.

Outcome may be affected by longer periods of active psychotic symptoms before a first treatment (Lieberman et al., 2001). It appears that the longer the deficits in life skills continue, the poorer the outcome. This relationship exists for outcomes measured in different ways: the time to or level of recovery from the initial episode, the time to or likelihood of relapsing after recovery from the

initial episode, and long-term outcomes measured globally for up to five years after beginning treatment. If the delay in seeking help is caused by deficits in self-care skills, then evaluation, education and intervention as early as possible, even in the prodromal stage, is essential and could impact positively on outcome.

When participants with early psychosis were compared to those with chronic schizophrenia, the first group showed superior community tenure at 12 months, after both groups received treatment aimed at community adaptation (Preston, 2000). One-half of the early intervention psychosis persons survived past the 12-month period, while only one-third of the participants with chronic schizophrenia did so within the same time period; the median survival time for the early psychosis group was 25 months, as compared to 11 months for the group with chronic schizophrenia. The early psychosis group displayed superior life skills and psychosocial functioning, compared to the group with chronic schizophrenia. It is to be noted however, that the early psychosis group was composed of persons with a variety of diagnoses, including not only schizophrenia, but also delusional disorder, schizoaffective disorder, substance-induced psychosis, bipolar disorder and depressive illnesses. Some of these mental disorders, for example, delusional disorder, are characterized by high functional levels. As well, one of the life skills assessments used, namely the Life Skills Profile (LSP) has not been shown to be reliable nor valid (Trauer, Duckmanton, & Chiu, 1995). Although this study has methodological weaknesses, it shows that life skills could



remain more intact and/or could be more easily acquired in the early stages of a major mental disorder, as compared to the later stages, thus supporting Liberman et al.'s (2001) view.

Neurocognition and symptoms. Green et al. (2000) review a total of 37 studies that investigated neurocognitive deficits and functional outcome. One of three outcome domains is community living and activities of daily living. Nineteen of the 37 studies explored this type of outcome, using two types of studies. One set of studies found that composite measures of neurocognition explained 20% - 60% of the variance in functional outcome. A second set of studies found that specific neurocognitive constructs were related to functional outcome. Among these constructs, secondary verbal memory, verbal fluency and card sorting abilities were identified as predictors of community living and performance in daily activities. Green et al. conducted a meta-analysis of the results of 19 studies and concluded that certain aspects of neurocognition are significantly related to functional outcome in schizophrenia. The authors stipulate that some of the neurocognitive measures used in studies of functional outcome are tests which were developed for discerning impaired (brain damaged) versus normal performance, while others are measures from cognitive assessments taken from experimental psychology, hence, "the tests are being used for different purposes than the ones for which they were developed" (Green et al., 2000, p. 130). Nevertheless, Green et al. state that these neurocognitive tests still perform reasonably well as predictors and correlates of functional outcome.

Other investigations found that community functioning, assessed by the level of autonomous performance in daily life skills and social relations, after a year of treatment for a first episode of psychosis, was strongly associated with the level of residual symptoms (Malla et al., 2002). Contrary to Green et al. (2000), Malla and colleagues reported that cognitive functioning "...does not have any impact on daily life activities" (Malla et al., 2002, p. 1117), but is associated only with the level of social relations. Additional variables, such as pre-morbid adjustment and medication adherence, were found to contribute to community functioning. According to Malla et al., life skills play a mediating role between symptom levels and functional outcome. For example, life skills are the mediators in medication compliance, but the significant role life skills play in overall community independent living is not fully recognized. Conclusions from this study remain open to consideration, because the sample size was small and the participants were young, suffering from schizophrenia. Other major mental disorders were not studied.

Both positive and negative symptoms are reported to be significantly related to functional outcome (Addington & Addington, 1993), but negative symptoms are stronger predictors of work and social functioning than positive symptoms in persons with chronic schizophrenia (Breier et al., 1991).

Addington and Addington (1993) present premorbid functioning as a factor, in addition to neurocognition and symptoms, in the outcome of schizophrenia. They reported that poor premorbid functioning and poor

outcome were significantly associated with negative symptoms. Although the identification of premorbid functioning as an important predictor of outcome appears logical, no outcome scale, as mentioned in their project, is presented, so that "outcome" at six months is undefined. Additionally, their study includes a small sample size.

Neurocognitive deficits are closely linked to negative symptoms (Goldman et al., 1993). Both neurocognitive deficits (Brekke et al., 1997; Velligan et al., 1997) and negative symptoms (Goldman et al., 1993; Norman et al., 1999) have been found to be strongly correlated with life skills performance and are also predictors of functional outcome. Hence, one could hypothesize that the assessment of life skills performance should provide a sufficient basis for predicting functional outcome, particularly for persons with schizophrenia.

Homelessness. Failure in performing and completing routine tasks to a level that is commensurate with societal standards often leads to marginalization and even homelessness (McAnanama, Rogosin-Rose, Scott, Joffe, & Kelner, 1999). A study conducted in Spain and in the U.S. showed that most homeless participants had developed their mental disorders before becoming homeless (Munoz, et al., 1998). In another investigation with first-admission participants suffering from major mental disorders, 15% experienced at least one episode of homelessness prior to their initial hospitalization (Herman, Susser, Jandorf, Lavelle, & Bromet, 1998). Within the group of participants diagnosed with schizophrenia, those assessed as

having high negative symptom scores were found to be at a significantly higher risk for homelessness than those with lower negative symptom ratings. The subgroup of persons with increased negative symptoms had lower levels of life skills performance than those with low negative symptoms. Davis and Kutter (1997) also found that homeless women displayed marked deficits in independent life skills, particularly in the area of money management. Life skills deficits are common in this population, and lead to difficulties in fulfilling basic needs of food and lodging. Low levels of life skills performance might therefore be associated with homelessness. Life skills impairments, that are associated with major mental disorders, may also prevent the resolution of homelessness and actually prolong it.

Homelessness is increasing in North America and in Europe (Munoz et al., 1998). The assessment and teaching of life skills could perhaps protect against homelessness. Since homelessness usually occurs close to or after the onset of major mental disorders (Herman et al., 1998) in a growing number of people, acquiring or re-learning fundamental daily skills appears to be essential.

Suicide. Both attempted and successfully completed suicide is considered a serious possible outcome for persons with major mental disorders, particularly for young male adults (Grunberg et al., 1994; Lesage et al., 1994; Radomsky et al., 1999).

Interpersonal and social dysfunction displayed by persons suffering from major mental disorders have been linked with suicide (Lesage et al.,

1994). Individuals suffering from major mental disorders who are functionally limited, perform self-care and other life skills in an ineffective manner, which in turn has a negative impact on their daily life situation. For example, financial difficulties due to poor planning may lead to an increase in frustration and dissociation from reality, and may even result in suicide. As previously mentioned, medication noncompliance due to poor self-care life skills, might also lead to an increase in symptomatology, causing relapse and suicide as an outcome.

Conclusion. Functional impairments, that are associated with major mental disorders, are seen in both men and women. Suicide rates are three or four times higher for men than for women, but attempted suicides are higher for women than for men. Life skills training, which encourages learning to appropriately and successfully use abilities, is imperative for persons who have lost the sense of being able to care for themselves and of being capable masters of their environment.

Conclusions about the association of life skills with outcome remain incomplete due to the lack of studies and to methodological weaknesses of studies that have addressed this question. These include sampling biases, the use of differing diagnostic criteria (Tsuang et al., 1979), small sample sizes (Malla et al., 2002), and retrospective procedures (which are prone to errors) for some variables such as, number and length of previous episodes, and age of onset (Robb et al., 1998). Nevertheless, some findings emerge clearly: (1) effectively performing self-care skills to comply with medication

can help diminish relapse and rehospitalization; (2) the longer the delay in receiving treatment for major mental disorders and the longer the associated life skills deficits persist, the poorer the outcome; (3) the capacity to independently perform daily living skills, including work skills, enhances community tenure; (4) low functional levels are positively associated with homelessness and suicide. Hence, life skills capacities impact on the course and severity of major mental disorders.

### The Assessment of Life Skills

Accurate assessment of basic life skills in individuals with major mental disorders would be an initial step towards helping affected individuals recover, relearn or learn for the first time life skills that are necessary to live independently. Proper and factual assessment leads to appropriate intervention, with improved functional levels that prolong independent community living.

### Assessment instruments

Many assessment instruments have been developed over the years, but none specifically measure functional life skills. Most assessment tools include items on symptoms, social abilities, and ratings on the appropriateness of behaviour or the quality of life. Despite a growing recognition in recent years of the importance of functional life skills for independent community living for persons with major mental disorders, there is a lack of instruments, which have been developed based on this premise. The following discussion will briefly present and comment on assessment

instruments that have appeared in the literature since the 1970's to date.

Reports of studies of the assessment of life skills began to increase in the 1970's and 1980's and were mainly conducted with persons suffering from schizophrenia. Other major mental disorders were rarely included in these studies of functional evaluation instruments. Early assessments, such as the Global Assessment Scale (GAS) (Endicott et al., 1976) and the Brief Psychiatric Rating Scale (BPRS) (Overall, 1988), that subsequently became widely used with persons with schizophrenia, focused mainly on evaluations of symptomatology. Although these instruments are still popular for evaluating persons with major mental disorders, they include only a few items assessing functional life skills. Moreover, the BPRS was primarily designed for use in a stable and supervised environment (Barker, Barron, McFarland, & Bigelow, 1994). The Global Assessment of Functioning Scale (GAF) (American Psychiatric Association, 1994), a modified version of the GAS (Endicott et al., 1976) has been and still is extensively used for the assessment of functional levels. A cautionary note about its use has been presented by Hintikka et al. (1999), who reported a gender bias in clinicians' assessments toward poor functioning in women. Even though the men were found to have deficits in life skills more often than the women in their study, no differences in mean GAF scores were found between the men and the women.

Other instruments, such as the Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983; Sarason, Shearin, Pierce, & Sarason, 1987) and the more recent Social Skills Performance Assessment

(Patterson, Moscona, McKibbin, Davidson, & Jeste, 2001b), assess only social abilities in participants' repertoires of life skills. They either fail to assess basic daily living skills or include only a few items among many items assessing social skills. Still others evaluate only particular life skills (Hamera & Brown, 2000), and thus do not provide a comprehensive measure of the person's functional level on a variety of daily tasks.

Wallace (1986) provided a thorough review of commonly used instruments developed in the '70's and '80's that measured functional living skills of persons with chronic mental disorders. He began with eleven instruments: the Katz Adjustment Scale (KAS) of Katz and Lyster (1963); the Personal Adjustment and Role Skills Scale (PARS) of Ellsworth, Foster, Childers, Arthur, and Kroeker (1968); the Social Behaviour and Adjustment Scale (SBAS) of Platt, Weyman, Hirsch, and Hewett (1980); the Psychiatric Status Schedule (PSS) of Spitzer, Endicott, Fleiss, and Cohen (1970); the Psychiatric Evaluation Form (PEF) of Endicott and Spitzer (1972b); the Current and Past Psychopathology Scale (CAPPS) of Endicott and Spitzer (1972a); the Social Adjustment Scale (SAS) of Weissman, Paykel, Siegal, and Klerman (1971); the Social Stress and Functioning Inventory (SSFIPD) of Serban (1978); the Denver Community Mental Health Questionnaire (DCMHQ) of Ciarlo and Riehman (1977); the Community Adaption Schedule (CAS) of Burnes and Roen (1967), and the Rehabilitation Evaluation (REHAB) of Baker and Hall (1983).

Although the KAS and the PARS have been used extensively and



have excellent psychometric characteristics, the KAS scales focus mainly on symptoms. Additionally, the community living items are focused on a family living situation and only one item of the KAS refers directly to self-care (Rosen, Hadzi-Pavlovic, & Parker, 1989). Wallace (1986) claimed that the KAS and the PARS do not provide sufficient information to formulate a treatment program for the acquisition of basic life skills. In other words, these instruments do not provide enough information about basic life skills deficits to develop effective interventions to learn these skills. Similarly, the SBAS concentrates on psychopathology, not on life skills. This latter assessment is extremely costly to administer, since extensive training is required to use it reliably (Wallace, 1986). The PSS, PEF and CAPPS similarly evaluate symptomatology and do not include items measuring life skills (Wallace, 1986). The SAS includes only one item that assesses living skills (Rosen et al., 1989), and since it was initially developed for use with depressed women, it may not be appropriate for use with individuals with other mental disorders. The SSFIPD evaluates multiple areas of functioning in detail, but its psychometric qualities have not been examined, nor have those of the CAS been investigated. The DCMHQ does not assess functional life skills at all and cannot be used to design a rehabilitation program. The REHAB has proven to be reliable, inexpensive and easy to administer, but does not evaluate life skills. In addition, Wallace (1986) claimed that not enough information is provided by the REHAB to form a comprehensive rehabilitation treatment plan. Further, Willer and Guastaferrero (1989) argued that it has little

applicability outside an institutional setting.

Wallace (1986) continued to describe eight other assessment instruments, but only two of these included measures of life skills: The Community Living Assessment Scale (CLAS; Willer & Guastaferro, 1985) and The Independent Living Skills Survey (ILSS; Wallace, Kochanowicz, & Wallace, 1985).

The Community Living Assessment Scale (CLAS) of Willer and Gustaferrero (1985) consists of 68 items that assess nine areas of personal hygiene and daily living skills. It was designed for exclusive use with persons already living in the community, and requires extensive observation of patients (Willer & Guastaferro, 1989). The Independent Living Skills Survey (ILSS) of Wallace et al. (1985) is a 112-item scale that touches upon nine skill areas dealing with a more or less complete repertoire of self-care and daily living tasks. The psychometric properties of the self-report version with a Quebec sample were found to be good (Cyr, Toupin, Lesage, & Valiquette, 1994). Unfortunately, this assessment is lengthy and scored in such a way that it primarily evaluates motivation, and does not assess the individual's ability to perform the tasks independently or with assistance. It, too, was designed for residents of group homes, and hence, has limited utility. Finally, the ILSS is administered as a questionnaire or as an interview, and although it, as well as the more recent Independent Living Skills Inventory (Menditto, et al., 1999) are "user friendly" and have well-documented psychometric properties, neither assesses performance of daily life skills *in vivo*.

Assessment through direct observation of behaviour enhances the validity of the data (Breier et al., 1991).

Other assessments also appeared during the 1980's, but are not applicable to persons with major mental disorders or have not been developed further. The Self-care Assessment Schedule (Barnes & Benjamin, 1987) presents a standardized assessment of self-care, but it is applicable only to persons who suffer from minor mental disorders or somatization syndromes. Another example is The Community Functioning Scale (CFS) of Marshall, Gay, and Wong (1988), a 30-item scale that emphasizes functional life skills strengths and deficits, with one subscale measuring symptoms and another social skills (Marshall, Gay, & Wong, 1988). The preliminary reports of reliability and validity were positive, but we failed to find other information on this assessment in the literature.

Rosen et al. (1989) reviewed nine instruments of functional living skills for persons suffering from chronic schizophrenia, but found either that the psychometric qualities of the assessments were unclear (did not unequivocally prove their reliability nor their validity) or that items minimally addressed self-care and daily living abilities. Their own Life Skills Profile (LSP) is a 39-item instrument for persons diagnosed with schizophrenia focusing on self-care as well as behavioural assessment (Rosen et al., 1989). But the baseline Life Skills Profile score is only a modest predictor of readmission (Parker & Hadzi-Pavlovic, 1995), and although the internal consistency is good, other validity measures are only fair to moderate

(Parker, Rosen, Emdur, & Hadzi-Pavlov, 1991; Trauer et al., 1995). Trauer and associates (1995) found low inter-rater reliability and argued that it is an instrument designed specifically for service evaluation. A shortened version of the LSP (20 questions) does not include several important self-care and daily functional items (meal preparation, budgeting, etc.) and still has only fair inter-rater reliability (Rosen, Trauer, Hadzi-Pavlovic, & Parker, 2001). Although the LSP is presented as assessing clinically significant change in persons with severe mental disorders, one study (Trauer, Duckmanton, & Chiu, 1997) included participants with Axis II and Axis III disorders. Hence, it is not clear if the results apply to persons with major mental disorders.

A large part of the occupational therapy literature focuses on life skills assessment and the teaching of skills to persons affected with functional loss through disorder or accident (Mosey, 1986; Nelson & Condrin, 1987; Radonsky et al., 1986). Activities of daily living are one of the cornerstones of this profession, which prides itself on using functional tasks for assessment and intervention. Nevertheless, the psychometric properties of the assessment instruments have not been examined (Eakin, 1989; Law & Letts, 1989). Occupational therapists have relied mainly on their clinical experience and intuitions when interpreting results of functional assessments, and have not yet adopted tools with solid psychometric qualities (Law, 1992).

Bearing this in mind, Pan and Fisher (1994) presented the Assessment of Motor and Process Skills (AMPS) for persons suffering from major mental disorders. This instrument evaluates motor and organizational skills using a

series of three tasks relevant to their daily life that the person chooses from a repertoire of more than 50. Thus, motivational and environmental factors are also included in this life skills performance assessment. Although the instrument has been proven to be valid and clinically useful with this clientele, training in its use and certification is expensive and demanding. To date, learning the AMPS appears to be open to occupational therapists only (Baron, 1994).

Another assessment developed by an occupational therapist, the Milwaukee Evaluation of Daily Living Skills (MEDLS), began as a 20-item standardized measure of functional life skills performance for chronic sufferers of major mental disorders (Leonardelli, 1986). The revised version includes 95 items within 24 subscales, but no information on psychometric qualities is available. The MEDS repeats items, and does not discriminate between participants who live independently in the community and those who require supervision (Leonardelli-Hartlein, 1999).

Other reported assessment instruments include the Multnomah Community Ability Scale (Barker et al., 1994), which measures levels of daily functioning in chronically affected individuals. The psychometric properties of this instrument are good. This instrument was developed for persons already living in the community to match available resources with levels of functioning. Therefore, it appears to give little information about treatment programs based on the assessment results. Specific items relating to social effectiveness (item #11) and impulse control (item #17) are difficult to assess

unless the rater is quite familiar with the person.

The Range of Impaired Functioning Tool (LIFE-RIFT) was uniquely developed for individuals with affective disorders (Leon et al., 1999). This evaluation is performed as a semi-structured interview, which apparently takes “no more than 5 {minutes} to administer” (Leon et al., 1999, p. 870). Unless the rater is very familiar with the person, the four areas investigated appear to take considerably more time to assess than is reported. Occupational and psychosocial functioning are explored, but there is only one item on household management that assesses functional life skills. This item, like all the others, is rated according to the person’s verbal response, and not according to his/her behaviours. The assessment refers to the week before the evaluation, and may be too short to provide an accurate picture of regular daily life skills functioning. Finally, this scale, as many others, has not yet been studied with persons suffering from disorders other than affective disorders.

To assess persons with bipolar disorder, life chart functioning scales have been used, with both retrospective and prospective methodologies (Meaden, Daniels, & Zajecka, 2000). The precision of the data is questionable, because in this evaluation, retrospective charts are constructed from persons’ memories with a clinician’s help, and mail-in self-reports are required for three consecutive months after the initial assessment. Participants were found to be less consistent in reporting functional deficits during manic episodes than during depressive episodes. Hence, the

instrument's validity is not known.

Recently, a consumer-centered assessment (CASIG) for planning individualized treatment and evaluating outcomes was published (Wallace, Lecomte, Wilde, & Liberman, 2001). It is a multidimensional instrument that evaluates the individual's current and desired functioning, using a structured interview for five major areas of community functioning, and measures the person's social and independent living skills, medication compliance and effects, quality of life, and treatment, symptoms, and inappropriate behaviours. The items assessing life skills are a subset of those found in the Independent Living Skills Survey (Wallace et al., 1986). Although the instrument has acceptable psychometric characteristics, it is lengthy, expensive to administer, and requires much work to score. Wallace and associates claim that these aspects can be offset by using less costly staff, including other trained consumers, to apply the CASIG. A computerized program has also been developed and is being tested to ease data entry (Wallace et al., 2001). Nevertheless, the functional life skills aspect is only a small part of this instrument, and it does not provide a complete functional assessment.

Two other recently presented assessments were found. The Routine Assessment of Patient Progress (RAPP) (Ehmann, Holliday, MacEwan, & Smith, 2001) is a 21-item rating scale that assesses both symptoms and functional levels. Although it is a valid and reliable instrument that is sensitive to change, it was tested with treatment-resistant psychotic inpatients only,

hence its utility with other populations is unknown. It does not thoroughly address difficulties in daily functioning.

The UCSD Performance-Based Skills Assessment (UPSA) measures the functional capacities of persons with schizophrenia living in the community (Patterson, Goldman, McKibbin, Hughs, & Jeste, 2001a). The psychometric properties are promising, although only examined on a small sample of 50 participants. The applicability to younger persons, so often seen in hospital or in follow-up clinics, is unknown. The study was conducted in an artificial situation and therefore may not have yielded the same results as those gathered in the person's natural milieu, particularly since natural settings are increasingly favoured for gathering pertinent information about functional levels (Brown, Moore, Herman, & Yunek, 1996; Brown, Shiels, & Hall, 2001; McAnanama, et al., 1999). Since "context influences assessment performance" (Hamera & Brown, 2000, p. 21), the artificiality of either an acute or longer-term institution might limit a functional assessment.

The assessment tools described above each have different limitations. These include: no study of psychometric properties; inadequate psychometric qualities; assessment of only a few life skills; developed exclusively for persons with schizophrenia or solely for persons with affective disorder; costly and arduous to use; and rely exclusively on self-reports or questionnaires. Self-report scales are unreliable (Sajatovic & Ramirez, 2001), unstandardized, have no norms, and are biased by social desirability and expectancies (Cormier & Cormier, 1985). Furthermore, self-reports may be



influenced by the person's psychopathology, distortions of reality (Patterson et al., 2001a), and personal values (Patterson et al., 2001b). None of the existing assessments have the following characteristics that can be found in one instrument: measures functional life skills thoroughly, has good psychometric properties, is easy to apply, can be used with persons suffering from various disorders, is performance based, and provides enough information for establishing a treatment program.

“Better methods of assessment would provide information to improve treatment decisions, and information about who benefits most from psychiatric rehabilitation would provide a basis for allocating treatment resources in a cost-effective manner “ (Wallace, 1993, p. 537). In fact, rigorous assessments of functional life skills of persons with major mental disorders is lacking, even though the type of information provided by thorough assessments is indispensable for decision and policy-making, specifically concerning issues on de-institutionalization and community tenure (Crocker & George, 1985). These instruments should measure different conditions at various points in time, and contribute to optimum health outcomes among persons whose mental disorders have disrupted their lives (Sajatovic & Ramirez, 2001). Assessment instruments are essential clinical and research tools.

#### The need for a more complete assessment tool

Major mental disorders are associated with life skill deficits. Functional impairments contribute to high relapse and rehospitalization rates, as well as

to excess morbidity and mortality rates. Deficits in life skills are not yet at the forefront of mental health concerns. The evaluation and treatment of basic life skills deficits, however, are indispensable to reducing functional impairments and increasing independent community living. To date, life skills assessments and treatment programs have not focused exclusively on basic self-care and other daily functioning skills of persons suffering from major mental disorders. Instruments that have been developed to measure basic life skills are rare and oftentimes lack adequate psychometric properties.

The ideal instrument to evaluate functional life skills in persons with major mental disorders should have the following characteristics: valid, reliable, and thorough, feasible, efficient, and practical to administer by either professionals or by health care givers. The assessment instrument should be free of jargon, sensitive to change, and provide accurate information for designing appropriate rehabilitation programs, which will develop a complete repertoire of basic life skills. The ideal instrument should observe behaviours and avoid fine detail, but still distinguish specific aspects of life skills (Hadzi-Pavlovic et al., 1992). An accurate assessment instrument should be able to differentiate between the existence of real deficits in self-care and other daily living skills and the lack of motivation to use already acquired skills. This point can only be verified over time, comparing functional levels through "spot checks" in the person's natural milieu, or by consulting others, who are in contact with the individual on a daily basis. A useful evaluation instrument should assess both disabilities and existing skills in order to contribute

information for program planning objectives, that takes account of the individual's needs. The instrument should be designed for use in the person's natural milieu, and should avoid artificial settings where responses and performances may not be representative of the individual's skills.

A valid and reliable instrument to thoroughly assess functional life skills among persons with different major mental disorders, in both acute and chronic stages, is needed. Once comprehensive information on the daily life skill performance of these persons has been gleaned, tailored application of intervention programs can take place, according to levels of dysfunction and according to areas of strengths.

#### Objectives of Present Study

For the purposes of this study, personal hygiene and daily living skills are defined as those functional abilities which refer to self-care and grooming and that help support and maintain the person autonomously in his/her natural milieu. Our goal is to develop an accurate and efficient assessment tool that is easily applied, performance based as used, as much as possible, in the person's natural milieu. Further, the new assessment tool will be designed to provide extensive information useful for establishing treatment programs to help support community tenure. Not only should a functional life skills assessment tool preclude inappropriate placement of persons with major mental disorders in community resources, but it should also contribute to preventing relapse. The goals of the present study are thus as follow:

1. To develop an instrument to evaluate functional life skills in individuals

suffering from major mental disorders that is reliable (inter-rater and test-retest reliability), valid (content validity, construct validity, and predictive validity), and feasible for use in both hospital and community settings.

2. To examine the association of life skills with personal and clinical characteristics such as, gender, age, education, marital status, financial status, number of previous hospitalizations, age at first hospitalization, and diagnosis.
3. To begin to explore the relationship between the various life skills and the number and length of rehospitalizations, measured during a 12-month follow-up period.

### Study 1

#### Objective

To examine the content validity of a series of life skills items.

#### Method

#### Subjects

Twelve mental health care professionals were recruited: three nurses, three occupational therapists, three social workers, and three community mental health workers all affiliated with a psychiatric ward and outpatient clinic of a general hospital in a large metropolitan centre. Each had more than three years' experience working with mentally disordered persons.

#### Instruments

The first version of the Functional Life Skills Assessment (FLSA)

consisted of 76 items measuring skills that were judged necessary to live autonomously in the community. The items were developed after numerous discussions with health-care professionals and consultation of Wallace's (1986) Independent Living Skills Survey and the Community Living Assessment Scale (Willer & Guastaferro, 1989).

The FLSA is divided into eight subscales: (a) Personal Hygiene (9 items); (b) Clothes Maintenance (10 items); (c) Eating and Nutrition (6 items); (d) Milieu Maintenance (16 items); (e) Money Management (10 items); (f) Community Skills (9 items); (g) Health (6 items); and (h) Leisure (10 items). The eight subscales and their items are presented in Appendix A. The original instructions for the FLSA, the method of evaluation for each item, and the evaluation itself are presented in Appendix B (version II, 77 items).

The items were translated into French by two occupational therapists, each having more than 10 years' experience in the mental health field. A third French-speaking occupational therapist verified the translation.

### Procedure

Twelve mental health care professionals were asked to identify the life skills items of the FLSA that are necessary for autonomous functioning in the community. Based on the results of this survey a second version of the assessment instrument was developed (see Appendix B). Some of the items in the first version had been endorsed by very few of those surveyed. Consequently, the instructions were changed to include the phrase "as well as being socially acceptable". Items A-6, B-6, B-7, C-4, G-3 to G-6 were also

modified or added. A similar survey was then conducted with 12 different mental health care professionals (10 nurses and 2 social workers with experience in the mental health field). Based on this second series of endorsements, comments, and suggestions, an updated version of the FLSA (version III), which has a total of 8 subscales and 77 items was produced. The subscales are presented in Appendix C, and the FLSA with instructions for administration are presented in Appendix D.

### Results

The results of the two surveys are reported in Tables 1 and 2 (see “Professionals' Endorsements of Items on the Functional Life Skills Assessment”, first and second versions).

The average number of votes for each item on each subscale was divided by the number of endorsements and converted into a percentage. As can be seen in Table 1, 68% of the judges endorsed the items on the Health subscale as being necessary for autonomous community tenure. Only 14% of the judges thought the items on the Leisure subscale important. These two subscales received the highest and the lowest percentages of endorsements, respectively. Sixty-five percent of the judges endorsed the items on the Money Management subscale, 57% the items on the Community Skills subscale, 55% endorsed the items on the Personal Hygiene subscale, 55% the items on the Clothes Maintenance subscale, 50% the items on the Milieu Maintenance subscale, and 33% the items on the Eating and Nutrition subscale.

Table 1: Professionals' Endorsements of Items on the First Version of the Functional Life Skills Assessment

<u>A. Personal Hygiene</u>		<u>Votes</u> (N=12)
1. Bathes or showers at least 3 times a week		9
2. Brushes teeth at least once a day		6
3. Shampoos hair at least once a week		12
4. Uses deodorant daily		0
5. Shaves at least every 2 days/keeps beard neat		5
6. Combs hair every day		7
7. Cleans or cuts nails		7
8. Frequently changes pads during menstruation		9
9. Maintains self neat during day		4
Percent of judges that thought items relevant		54.6%
<u>B. Clothes Maintenance</u>		
1. Changes clothes at least every 2 days or when needed		9
2. Changes underwear at least every 2 days or when needed		9
3. Gets dressed adequately		5
4. Dresses according to season, temperature, and activity		10
5. Takes clothes off to sleep		10
6. Stores soiled clothes for washing		7
7. Uses automatic washer and dryer		6
8. Puts clean clothes away		5
9. Keeps clothes repaired		2
10. Keeps shoes repaired		3
Percent of judges that thought items relevant		55.0%
<u>C. Eating and Nutrition</u>		
1. Eats and drinks neatly		6
2. Uses proper utensils and dishes.		6
3. Uses napkin		0
4. Shows knowledge of main food groups for balanced diet		4
5. Shows good nutritional habits - balanced diet, no excess of sweets or salts		0
6. Limits food intake to appropriate amount		8
Percent of judges that thought items relevant		33.3%

Table 1: Professionals' Endorsements of Items on the First Version of the Functional Life Skills Assessment (Cont'd)

<b>D. <u>Milieu Maintenance</u></b>	
1. Makes bed daily	1
2. Changes linens as needed	9
3. Keeps room(s) neat	5
4. Dusts surfaces as needed	4
5. Vacuums or sweeps floors as needed	7
6. Washes floors as needed	7
7. Wipes up spills	8
8. Washes dishes/pots at least once a day	4
9. Cleans toilet/sink/bathtub as needed	6
10. Prepares simple foods (sandwiches, coffee, tea)	10
11. Prepares simple meals (eggs, soups)	10
12. Puts leftovers away	8
13. Keeps fridge clean	6
14. Keeps stove and oven clean	5
15. Knows which cleansers to use	3
16. Shops for nutritional foods	3
Percent of judges that thought items relevant	50.0%
<b>E. <u>Money Management</u></b>	
1. Budgets money (plans ahead)	10
2. Buys the right amount of groceries	11
3. Buys own clothes	6
4. Buys personal items as needed	8
5. Can write a cheque	4
6. Pays bills by cheque or cash	9
7. Pays the rent by cheque or cash	10
8. Has a bank account	4
9. Purchases necessities before luxury items	7
10. Counts change	9
Percent of judges that thought items relevant	65.0%
<b>F. <u>Community Skills</u></b>	
1. Uses telephone	10
2. Shows ability to use directory	1
3. Gets directions as needed	9
4. Shows knowledge of emergency numbers	10



Table 1: Professionals' Endorsements of Items on the First Version of the Functional Life Skills Assessment (Cont'd)

5. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations	7
6. Walks to places in the neighbourhood	11
7. Uses public transportation	6
8. Shows familiarity with safety principles	7
9. Shows ability to address a letter	0
Percent of judges that thought items relevant	56.5%
<u>G. Health</u>	
1. Reports physical problems adequately	6
2. Keeps appointments with health professionals	10
3. Can care for own minor physical problems appropriately	5
4. Renews prescription for present medication as needed	11
5. Cooperates with person giving medication daily	7
6. Self-administers prescribed medication reliably daily	10
Percent of judges that thought items relevant	68.1%
<u>H. Leisure</u>	
1. Reads books or magazines	0
2. Shows interest in a hobby	4
3. Takes walks outside	6
4. Listens to radio or watches T.V	7
5. Goes to watch sports activities	0
6. Goes to films or plays	0
7. Plays cards	0
Table 1 (Cont'd)	
8. Attends community groups (workshops, arts & crafts)	0
9. Reads the paper daily	0
10. Plays sports	0
Percent of judges that thought items relevant	14.2%

Table 2: Professionals' Endorsements of Items on the Second Version of the Functional Life Skills Assessment

Items judged necessary to maintain community tenure, be autonomous and be socially acceptable.	
A. <u>Personal Hygiene</u>	<u>Votes</u> (N=12)
1. Bathes or showers at least 3 times a week	11
2. Brushes teeth at least once a day	7
3. Shampoos hair at least once a week	11
4. Uses deodorant daily	2
5. Shaves at least every 2 days/keeps beard neat	8
6. Combs or arranges hair every day	8*
7. Cleans or cuts nails	5
8. Frequently changes pads during menstruation	9
9. Maintains self neat during day	4
Percent of judges that thought items relevant	60.2%
B. <u>Clothes Maintenance</u>	
1. Changes clothes at least every 2 days or when needed	10
2. Changes underwear at least every 2 days or when needed	10
3. Gets dressed adequately	6
4. Dresses according to season, temperature, and activity	10
5. Takes clothes off to sleep	9
6. Gathers soiled clothes for washing	9*
7. Uses automatic washer and dryer or does hand washing	10*
8. Puts clean clothes away	6
9. Keeps clothes repaired	9
10. Keeps shoes repaired	7
Percent of judges that thought items relevant	71.7%
C. <u>Eating and Nutrition</u>	
1. Eats and drinks neatly	8
2. Uses proper utensils and dishes.	7
3. Uses napkin	0
4. Shows minimal knowledge of main food groups for balanced diet	4*
5. Shows good nutritional habits - balanced diet, no excess of sweets or salts	0
6. Limits food intake to appropriate amount	6

Table 2: Professionals' Endorsements of Items on the Second Version of the Functional Life Skills Assessment (Cont'd)

Percent of judges that thought items relevant	34.7%
<u>D. Milieu Maintenance</u>	
1. Makes bed daily	1
2. Changes linens as needed	9
3. Keeps room(s) neat	8
4. Dusts surfaces as needed	3
5. Vacuums or sweeps floors as needed	7
6. Washes floors as needed	6
7. Wipes up spills	11
8. Washes dishes/pots at least once a day	11
9. Cleans toilet/sink/bathtub as needed	9
10. Prepares simple foods (sandwiches, coffee, tea)	11
11. Prepares simple meals (eggs, soups)	8
12. Puts leftovers away	11
13. Keeps fridge clean	5
14. Keeps stove and oven clean	4
15. Knows which cleansers to use	7
16. Shops for nutritional foods	4
Percent of judges that thought items relevant	59.9%
<u>E. Money Management</u>	
1. Budgets money (plans ahead)	9
2. Buys the right amount of groceries	9
3. Buys own clothes	7
4. Buys personal items as needed	7
5. Can write a cheque	9
6. Pays bills by cheque or cash	11
7. Pays the rent by cheque or cash	12
8. Has a bank account	6
9. Purchases necessities before luxury items	9
10. Counts change	6
Percent of judges that thought items relevant	70.8%

Table 2: Professionals' Endorsements of Items on the Second Version of the Functional Life Skills Assessment (Cont'd)

<b>F. <u>Community Skills</u></b>	
1. Uses telephone	10
2. Shows ability to use directory	6
3. Gets directions as needed	10
4. Shows knowledge of emergency numbers	8
5. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations	4
6. Walks to places in the neighbourhood	11
7. Uses public transportation	7
8. Shows familiarity with safety principles	8
9. Shows ability to address a letter	2
Percent of judges that thought items relevant	61.1%
<b>G. <u>Health</u></b>	
1. Reports physical problems adequately	6
2. Keeps appointments with health professionals	11
3. Consults health professionals as needed	7*
4. Can care for own minor physical problems appropriately	5*
5. Renews prescription for present medication as needed	9*
6. Cooperates with person giving medication daily or self- administers prescribed medication reliably daily	11*
Percent of judges that thought items relevant	68.1%
<b>H. <u>Leisure</u></b>	
1. Reads books or magazines	0
2. Shows interest in a hobby	1
3. Takes walks outside	8
4. Listens to radio or watches T.V	7
5. Goes to watch sports activities	0
6. Goes to films or plays	1
7. Plays cards	0
8. Attends community groups (workshops, arts & crafts)	1
9. Reads the paper daily	0
10. Plays sports	0
Percent of judges that thought items relevant	15.0%

\* Signifies item was modified or added, as compared to version 1.

Table 2 (second survey) shows an increase in the percentages of judges who thought items relevant on all the subscales, except for those on the Health subscale. This percentage was the same (68%) in the two surveys. The highest percent of judges (72%) endorsed the items on the Clothes Maintenance subscale, while the lowest percent (15%) endorsed the items on the Leisure subscale. The items on the Personal Hygiene subscale received 60% of the professionals' endorsements, while those on the Eating and Nutrition subscales only received 35%. Table 2 also shows that 60% of the professionals endorsed the items on the Milieu Maintenance subscale, 71% endorsed the items on the Money Management subscale, while 61% considered the items on the Community Skills subscale relevant.

### Discussion

The first survey indicated that at least 50% of the professionals endorsed six of the eight subscales. The second survey resulted in a substantial increase of judges' votes endorsing items on all the subscales, except Eating and Nutrition (an increase of 2%), and Leisure (an increase of 1%). The percentage of judges who endorsed the items of the Health subscale remained constant (68%). Thus, on the second survey, six out of eight subscales each received more than 55% of the judges' votes. It was decided to include all the subscales in the subsequent version of the FLSA, with 77 items (see Appendix C and D).

### Study II

#### Objectives

The objectives of this study were to measure inter-rater reliability and

test the feasibility of the FLSA 's use in hospital and community settings.

## Method

### Subjects

The sample was composed of 31 individuals discharged consecutively from the psychiatric ward of a general hospital. Inclusion criteria were: (1) a discharge diagnosis of schizophrenia, schizoaffective disorder, bipolar disorder, major depression or delusional disorder; (2) between the ages of 18 and 65. Exclusion criteria were: (1) a current diagnosis of alcohol or drug abuse and/or dependence; (2) an identified physical illness which prevented complete assessment; (3) an incapacity to speak or understand either English or French; (4) an intellectual handicap; (5) a potential to be physically aggressive.

### Instruments

The third version of the FLSA is presented in Appendix D. The items are grouped according to the methods used to assess them, i.e., those that are evaluated in consultation with a nurse, those that are evaluated by observation and questioning of the participant and/or of someone who knows him or her well, those that are evaluated by direct questioning of the participant, and those that are evaluated by testing.

Item ratings vary from 0 to 2: a score of 0 indicates that the participant does not complete the task, even when prompts or suggestions are provided, or that he or she needs continuous reminders or guidance during task execution; a rating of 1 indicates that the participant needs a prompt, a suggestion or some help to either initiate, execute or complete the task; and a

score of 2 indicates that the participant executes the task without any prompt or assistance whatsoever. Each item was also given a quality rating (yes or no), to indicate whether the task was executed in an acceptable (successful) manner or not.

The following information was extracted from medical files: age, education, financial status, marital status, number and total days of previous hospitalizations, age at first hospitalization, and diagnosis.

### Procedure

Each eligible participant was informed of the life skills evaluation and was asked to consent to participate in this study (see Appendix E). A total of 31 participants, 13 males and 18 females, consented. Ten eligible persons who were approached (five men and five women) refused to participate in the study; one other male participant was not available to complete the assessment. All evaluations were completed within two weeks of discharge.

In the two weeks before discharge, participants were individually assessed by two judges, who independently rated items # 1 - 23 based on an interview with a ward nurse who knew the person well. Items # 24 - 41 were scored by observation and questioning of the person or of others who knew the participant well. Items # 42 - 44 and items # 47 - 70 were scored by direct questioning of the person and items #71 - 77 were scored by simulation of tasks, for example, writing out their budget, using the telephone, using the telephone directory, and addressing an envelope. Note that these items were scored while the participant was still hospitalized.

The same two judges completed the assessment of items that required an *in vivo* evaluation after discharge: items # 24 - 41 and items # 45 - 70 were rated at the participant's home, based on simulation and direct observation and questioning of the participant. In cases where a significant other was available, information from this person was used to complete the assessment. When the participant was discharged to a supervised environment, the supervisor was consulted to help complete the assessment. Raters were encouraged to base their evaluations on observations.

#### The raters

Judge # 1 (S.L.) is an occupational therapist with more than 15 years' experience with mentally disordered persons. Judge # 2 (S.S.) was an occupational therapy intern who completed course work, but with little or no clinical experience with the defined clientele. Judge # 3 (N.C.) was an occupational therapist with more than 3 years but less than 10 years experience with this clientele.

Judge # 1 evaluated all 31 participants, Judge # 2 evaluated the first 20 participants with Judge # 1, but then left the project. Judge # 3 evaluated the remaining 11 participants with Judge # 1.

#### Results

Table 3 presents the mean scores, the standard deviations, the minimum and the maximum values for each of the 77 items of the FLSA, scored by Judge # 1. Table 4 presents the mean scores, the standard deviations, the minimum and the maximum for each subscale based on



scores of Judge # 1. The highest mean score is for the Clothes Maintenance subscale, and the lowest is for the Leisure subscale. The highest standard deviation is on the Milieu Maintenance subscale, and the lowest is on the Community Skills subscale. The highest mean global score is 1.947 (SD= 0.327), and the lowest is 0.787 (SD= 1.002).

Table 5 presents the intercorrelations among the subscale scores. The scores on the Personal Hygiene and Clothes Maintenance subscales are highly correlated ( $r = 0.78$ ); Milieu Maintenance is also positively correlated with Money Management ( $r = 0.69$ ). Milieu Maintenance correlates best with the total subscales ( $r = 0.88$ ). The Health subscale correlates least with the other subscales ( $r = 0.50$ ). There also appears to be little correlation between Eating and Nutrition, and Health ( $r = 0.21$ ), Community Skills ( $r = 0.13$ ), or Leisure ( $r = 0.21$ ), nor is there a correlation between Clothes Maintenance and Community Skills ( $r = -0.05$ ), or between Health and Eating and Nutrition ( $r = -0.15$ ).

Inter-rater reliability was measured using the kappa statistic. The kappa for judgments of Judge # 1 and Judge # 2 is .912; the kappa between Judge # 1 and Judge # 3 is .946. The kappa between Judge # 1 and the other two combined is .923.

These results indicate a high inter-rater reliability.

Table 3: Mean Scores and Standard Deviations for Each Item

<u>Item</u>	<u>Mean</u>	<u>SD</u>	<u>Minimum</u>	<u>Maximum</u>
#1	1.84	0.37	1.00	2.00
#2	1.50	0.84	0.00	2.00
#3	1.84	0.37	1.00	2.00
#4	1.46	0.66	0.00	2.00
#5	1.74	0.51	0.00	2.00
#6	1.48	0.87	0.00	2.00
#7	1.77	0.62	0.00	2.00
#8	1.65	0.66	0.00	2.00
#9	1.68	0.75	0.00	2.00
#10	2.00	0.00	2.00	2.00
#11	2.00	0.00	2.00	2.00
#12	1.97	0.18	1.00	2.00
#13	1.81	0.48	0.00	2.00
#14	1.61	0.72	0.00	2.00
#15	1.81	0.54	0.00	2.00
#16	1.71	0.64	0.00	2.00
#17	1.90	0.40	0.00	2.00
#18	1.81	0.60	0.00	2.00
#19	1.94	0.36	0.00	2.00
#20	1.65	0.75	0.00	2.00
#21	1.81	0.60	0.00	2.00
#22	1.94	0.36	0.00	2.00
#23	1.43	0.90	0.00	2.00
#24	1.29	0.97	0.00	2.00
#25	1.64	0.86	0.00	2.00
#26	1.46	0.88	0.00	2.00
#27	1.48	0.89	0.00	2.00
#28	1.16	0.97	0.00	2.00
#29	1.29	0.97	0.00	2.00
#30	1.06	1.00	0.00	2.00
#31	1.55	0.85	0.00	2.00
#32	1.61	0.80	0.00	2.00
#33	1.42	0.92	0.00	2.00
#34	1.68	0.75	0.00	2.00
#35	1.23	0.99	0.00	2.00
#36	1.03	1.02	0.00	2.00
#37	1.23	0.99	0.00	2.00
#38	1.87	0.50	0.00	2.00

Table 3 Mean Scores and Standard Deviations for Each Item (Cont'd)

<u>Item</u>	<u>Mean</u>	<u>SD</u>	<u>Minimum</u>	<u>Maximum</u>
#39	1.64	0.95	0.00	2.00
#40	2.00	0.00	2.00	2.00
#41	1.87	0.50	0.00	2.00
#42	0.90	1.01	0.00	2.00
#43	2.00	0.00	2.00	2.00
#44	1.68	0.75	0.00	2.00
#45	1.79	0.63	0.00	2.00
#46	1.48	0.89	0.00	2.00
#47	1.68	0.75	0.00	2.00
#48	1.77	0.62	0.00	2.00
#49	1.23	0.99	0.00	2.00
#50	1.29	0.94	0.00	2.00
#51	1.74	0.68	0.00	2.00
#52	1.74	0.68	0.00	2.00
#53	1.42	0.92	0.00	2.00
#54	1.85	0.53	0.00	2.00
#55	1.74	0.68	0.00	2.00
#56	1.86	0.51	0.00	2.00
#57	1.81	0.60	0.00	2.00
#58	1.42	0.92	0.00	2.00
#59	1.41	0.91	0.00	2.00
#60	0.73	0.98	0.00	2.00
#61	1.42	0.92	0.00	2.00
#62	1.29	0.97	0.00	2.00
#63	1.61	0.80	0.00	2.00
#64	1.87	0.50	0.00	2.00
#65	0.29	0.69	0.00	2.00
#66	0.77	0.96	0.00	2.00
#67	1.23	0.99	0.00	2.00
#68	0.71	0.97	0.00	2.00
#69	0.26	0.68	0.00	2.00
#70	0.65	0.95	0.00	2.00
#71	1.19	0.91	0.00	2.00
#72	1.45	0.72	0.00	2.00
#73	0.97	1.02	0.00	2.00
#74	2.00	0.00	2.00	2.00
#75	1.70	0.67	0.00	2.00
#76	1.93	0.38	0.00	2.00
#77	1.90	0.30	1.00	2.00

Table 4: Means and Standard Deviations of Subscales on 31 Persons

Subscale	Mean	SD	Min	Max
A. Personal Hygiene	1.599	0.450	0.500	2.000
B. Clothes Maintenance	1.814	0.316	0.700	2.000
C. Eating and Nutrition	1.801	0.345	0.667	2.000
D. Milieu Maintenance	1.424	0.626	0.125	2.000
E. Money Management	1.441	0.505	0.100	2.000
F. Community Skills	1.792	0.300	0.778	2.000
G. *Health	1.515	0.366	0.600	2.000
H. Leisure	1.010	0.387	0.200	1.800
*Global Scores	1.523	0.304	0.787	1.947

\* n = 27; all other scales n = 31

Table 6 presents the kappa statistics, which measure the agreement between the judges (while taking account of chance agreements) for each item, comparing Judge # 1 with Judges # 2 and # 3 combined. Thirty-nine out of 77 items have a kappa of 1.000; 9 items have a kappa between 0.900 and 1.000; 19 items have a kappa between 0.800 and 0.900; 8 items have a kappa between 0.600 and 0.800; one item has a kappa of 0.527 and one has a kappa of 0.003.

Table 7 presents the kappa statistics for each subscale, comparing Judge # 1 with the other two judges combined. With respect to each subscale score, the results show the Clothes Maintenance subscale to have the highest kappa (1.000), with Personal Hygiene immediately following (0.956).

**Table 5: Pearson Correlation Coefficients of Subscales (n = 31)**

Scale	A	B	C	D	E	F	G	H
A	1.0000 p=0.000	0.7831 p=0.000	0.4036 p=0.012	0.5496 p=0.001	0.3427 p=0.029	0.2429 p=0.094	0.1636 p=0.189	0.3163 p=0.041
B	0.7831 p=0.000	1.0000 p=0.000	0.2972 p=0.052	0.6110 p=0.000	0.4136 p=0.010	0.0538 p=0.387	0.2063 p=0.133	0.2124 p=0.126
C	0.4036 p=0.012	0.2972 p=0.052	1.000 p=0.000	0.3181 p=0.041	0.2908 p=0.056	0.1296 p=0.243	-0.1528 p=0.206	0.1313 p=0.241
D	0.5496 p=0.001	0.6110 p=0.000	0.3181 p=0.041	1.000 p=0.000	0.6916 p=0.024	0.3588 p=0.198	0.1579 p=0.198	0.1910 p=0.152
E	0.3427 p=0.029	0.4136 p=0.010	0.2908 p=0.056	0.6916 p=0.024	1.000 p=0.000	0.5740 p=0.000	0.2429 p=0.094	0.3498 p=0.027
F	0.2429 p=0.094	-0.0538 p=0.387	0.1296 p=0.243	0.3588 p=0.024	0.5740 p=0.000	1.000 p=0.000	0.2441 p=0.093	0.3337 p=0.033
G	0.1636 p=0.189	0.2063 p=0.133	-0.1528 p=0.206	0.1579 p=0.198	0.2429 p=0.094	0.2441 p=0.093	01.000 p=0.000	0.3828 p=0.017
H	0.3163 p=0.041	0.2124 p=0.126	0.1313 p=0.241	0.1910 p=0.152	0.3498 p=0.027	0.3337 p=0.033	0.3828 p=0.017	1.000 p=0.000
Global	0.7194 P=0.000	0.6995 p=0.000	0.4233 p=0.009	0.8838 p=0.000	0.8148 p=0.000	0.5266 p=0.000	0.3543 p=0.025	0.4993 p=0.002
A= Personal Hygiene			C = Eating and Nutrition			E = Money Management		
B = Clothes Maintenance			D = Milieu Maintenance			F = Community Skills		
						G = Health		
						H = Leisure		

The lowest kappa is for the Eating and Nutrition subscale (0.864). The kappa statistics indicate a high inter-rater reliability for all of the subscale scores.

Table 8 presents the kappas for each method of rating. The highest coefficients of agreement were obtained for the items assessed by interview with a nurse (0.974) and the lowest agreement was obtained for the items assessed by direct observation and questioning (0.860).

### Discussion

The results indicate high inter-rater reliability for the FLSA item scores, subscale scores, and global scores. The item with the lowest kappa (.003), # F - 6 ("walks to places in the neighbourhood"), will be eliminated or reformulated.

The scores for other items such as # C-3 ("uses napkin") and # B-3 ("gets dressed adequately"), although having a kappa of 1.000, respectively, are included in the items immediately preceding (# C-2, "uses proper utensils and dishes") and following (# B-4, "dresses according to season, temperature and occasion") on their respective scales. Their inclusion, therefore was judged to be unnecessary.

Table 6: Inter-rater Reliability: Judge #1 vs. Judges # 2 and # 3 Combined

<u>A. Personal Hygiene</u>	<u>Kappa</u>
1. Bathes or showers at least 3 times a week	1.000
2. Brushes teeth at least once a day	0.940
3. Shampoos hair at least once a week	0.890
4. Uses deodorant daily	1.000
5. Shaves at least every 2 days/keeps beard neat	1.000
6. Combs or arranges hair every day	1.000
7. Cleans or cuts nails	0.855
8. Frequently changes pads during menstruation	1.000
9. Maintains self neat during day	0.874

Table 6: Inter-rater Reliability: Judge #1 vs. Judges # 2 and # 3 Combined  
(Cont'd)

<u>B. Clothes Maintenance</u>	
1. Changes clothes at least every 2 days or when needed	1.000
2. Changes underwear at least every 2 days or when needed	1.000
3. Gets dressed adequately	1.000
4. Dresses according to season, temperature, and activity	1.000
5. Takes clothes off to sleep	1.000
6. Gathers soiled clothes for washing	1.000
7. Uses automatic washer and dryer or does hand washing	1.000
8. Puts clean clothes away	1.000
9. Keeps clothes repaired	1.000
10. Keeps shoes repaired	1.000
<u>C. Eating and Nutrition</u>	
1. Eats and drinks neatly	1.000
2. Uses proper utensils and dishes	1.000
3. Uses napkin	1.000
4. Shows minimal knowledge of main food groups for balanced diet	0.527
5. Shows good nutritional habits-balanced diet, no excess of sweets or salts	1.000
6. Limits food intake to appropriate amount	1.000
<u>D. Milieu Maintenance</u>	
1. Makes bed daily	1.000
2. Changes linens as needed	0.818
3. Keeps room(s) neat	0.737
4. Dusts surfaces as needed	0.821
5. Vacuums or sweeps floors as needed	0.859
6. Washes floors as needed	1.000
7. Wipes up spills	0.815
8. Washes dishes/pots at least once a day	0.633
9. Cleans toilet/sink/bathtub as needed	1.000
10. Prepares simple foods (sandwiches, coffee, tea)	1.000
11. Prepares simple meals (eggs, soups)	1.000
12. Puts leftovers away	0.890
13. Keeps fridge clean	0.614
14. Keeps stove and oven clean	0.812
15. Knows which cleansers to use	0.890
16. Shops for nutritional foods	1.000

Table 6: Inter-rater Reliability: Judge #1 vs. Judges # 2 and # 3 Combined  
(Cont'd)

<u>E. Money Management</u>	
1. Budgets money (plans ahead)	0.891
2. Buys the right amount of groceries	1.000
3. Buys own clothes	0.843
4. Buys personal items as needed	0.783
5. Can write a cheque	0.944
6. Pays bills by cheque or cash	0.948
7. Pays the rent by cheque or cash	1.000
8. Has a bank account	0.839
9. Purchases necessities before luxury items	0.646
10. Counts change	0.936
<u>F. Community Skills</u>	
1. Uses telephone	1.000
2. Shows ability to use directory	0.821
3. Gets directions as needed	1.000
4. Shows knowledge of emergency numbers	1.000
5. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations	1.000
6. Walks to places in the neighbourhood	0.003
7. Uses public transportation	1.000
8. Shows familiarity with safety principles	0.907
9. Shows ability to address a letter	0.819
<u>G. Health</u>	
1. Reports physical problems adequately	0.931
2. Keeps appointments with health professionals	1.000
3. Consults health professionals as needed	0.757
4. Can care for own minor physical problems appropriately	0.822
5. Renews prescription for present medication as needed	0.866
6. Cooperates with person giving medication daily	0.910
7. Self-administers prescribed medication reliably daily	0.870
<u>H. Leisure</u>	
1. Reads books or magazines	0.919
2. Shows interest in a hobby	0.784
3. Takes walks outside	1.000
4. Listens to radio or watches T.V	1.000
5. Goes to watch sports activities	1.000



Table 6: Inter-rater Reliability: Judge #1 vs. Judges # 2 and # 3 Combined  
(Cont'd)

6. Goes to films or plays	0.739
7. Plays cards	1.000
8. Attends community groups	0.859
9. Reads the paper daily	1.000
10. Plays sports	0.928

Table 7: Inter-rater Reliability for Subscale Scores: Judge #1 vs. Judges #2 and #3 Combined (n = 31)

Subscale	Kappa
A. Personal Hygiene	0.956
B. Clothes Maintenance	1.000
C. Eating and Nutrition	0.864
D. Milieu Maintenance	0.869
E. Money Management	0.911
F. Community Skills	0.868
G. Health	0.904
H. Leisure	0.930

Table 8: Kappa Statistic for Method of Rating (n = 31)

Method	Kappa
1. Consultation (items #1-23)	0.974
2. Observation and questioning (items #24-41)	0.860
3. Direct questioning (items #42-44; #47-70; #50)	0.927
4. Simulation (testing) (items #45-46; #71-76)	0.923

Item # A-2, ("brushes teeth at least once a day"), should also include "or cleans denture(s)". Nurses indicated the need for an item on foot care. Such an item was added to the Personal Hygiene scale, and assessed by

consultation with a nurse.

Most items were easily scored by consultation, by observation and by questioning participants or significant others and supervisors, by direct questioning of participants or significant others, and by direct testing. However, some items were difficult to assess, particularly items on the Health subscale. For example, if it was the person's first admission to hospital, it was difficult to assess whether he/she would reliably take medication after discharge. Most of the items on this scale can only be rated after discharge, while other items require questioning of the outpatient clinic staff and/or consultation of outpatient records.

Items # 45 and # 46, having to do with preparation of snacks and simple meals, were too time-consuming to assess in the clinical setting and required special preparation by the judges. It was decided that the natural milieu of the participant would be a better testing ground. These items can be more quickly and easily assessed by direct observation and questioning of the participants after discharge. Simulation, such as having a cup of coffee together with the individual in his/her home was time-efficient and informative for these items. A final version of the FLSA appears in Appendix F.

### Study III

The final study had three principal objectives. The first objective was to assess the reliability of the FLSA, specifically: to complete the inter-rater reliability study and to measure the test-retest reliability. The second objective was to complete the evaluation of the content validity and to investigate the construct validity. The association of socio-demographic factors (gender, age,

education, civil status, financial status) and clinical characteristics (age of illness onset, number of previous hospitalizations, diagnosis) with scores on the FLSA were examined. The final objective was to document the predictive validity of the FLSA. More precisely, we explored the relationship between the various life skills measured by the FLSA and the number and length of rehospitalizations during a 12-month follow-up period.

### Method

#### Participants

Using a procedure similar to the one applied in Study II, 119 additional participants were evaluated by Judge # 1 (S.L.), resulting in the evaluation of a final sample that included 150 participants. In order to estimate inter-rater reliability, 30% of the participants ( $n = 45$ ) were evaluated by two judges. Data were available for 31 participants from Study II, and another 14 were evaluated for Study III.

To estimate test-retest reliability, another 30% ( $n = 45$ ) of the participants were evaluated by one of three judges within two weeks following their initial evaluation. Given the high kappas obtained in Study II (first part of inter-rater reliability), we considered that the potential variability introduced in the test-retest reliability by using different judges was negligible. In fact, only Judge # 4 was used with these 45 participants.

All participants in the study were followed for 12 months after discharge from hospital. The number and length of hospitalizations, and number of visits to the psychiatric emergency room were recorded.

Consenters and Refusers. Consecutively discharged participants who

met the inclusion criteria as described in Study II, were invited to take part in this project, until 150 (including the 31 participants from Study II) agreed and actually completed it. One participant who agreed to participate died before his evaluation could be completed, 17 who originally consented subsequently refused, and 55 refused to participate. Altogether, 223 eligible persons were approached to participate in this study. The participant who died was male, 63 years old, and had been diagnosed with a bipolar disorder.

Table 9: Comparison of Consenting and Non-consenting Participants

	Consenters	Refusers	Total	P
Total sample	150	72	222	-
Sex	n(%)	n(%)	n(%)	0.34*
Men	70 (46.7)	28 (38.9)	98 (44.1)	
Women	80 (53.3)	44 (61.1)	124 (55.9)	
Principal diagnosis	n(%)	n(%)	n(%)	< 0.001*
Bipolar disorder	58(38.7)	11 (15.3)	69 (31.1)	
Schizophrenia	47 (31.3)	39 (54.2)	86 (38.7)	
Schizoaffective disorder	15 (10.0)	0 (0.0)	15 (6.8)	
Major depression	21 (14.0)	15 (20.8)	36 (16.2)	
Delusional disorder	9 (6.0)	7 (9.7)	16 (7.2)	
Age	(years)	(years)		1.000**
Mean	42.34	42.35	42.34	
Standard deviation	10.88	11.35	11.03	

Note: \* Chi-square test; \*\* 2-tailed t-test

Comparisons of participants who consented ( $n = 150$ ) and those who refused ( $n = 72$ ) are presented in Table 9. Of the 150 participants, 80 (53.3%) were female, and 70 (46.7%) were male. Of those who refused to participate, 44 (61.1%) were female, and 28 (38.9%) were male. The chi square statistic shows a non-significant ( $p = 0.34$ ) gender difference between the two groups. The t-test for independent groups shows that there are no significant differences in age between the consenting and non-consenting participants.

The distribution of diagnoses differed significantly between those who participated and those who refused to participate in the study ( $p < 0.01$ ). Among participants who refused to participate, the prevalence of schizophrenia was higher (54.2% vs 31.3%) and that of bipolar disorder lower (15.3% vs 38.7%) than among those who agreed.

The final sample. The participants included in Study III are described in Table 10. A series of frequency tables describing the 150 participants who participated in the study can be found in Appendix H, Table H –1, to Table H – 4. Of the 150 participants, 101 (67.3%) were single, 14 (9.3%) married, 7 (4.7%) separated, 23 (15.3%) divorced, and 5 (3.3%) widowed. Hence, the majority of the sample was single. Participants' educational level varied from one to 26 years of school, with 94 participants (62.7%) having completed secondary school, 35 (23.3%) having completed CEGEP and 21 (14.0%) having completed university and graduate studies. The mean number of years of education for the sample is 11.7, with a median of 12 years and a range of 25 years. Sixty-three per cent of the study's sample has 12 or less years of schooling. Of these, one-half has either eleven or twelve years of schooling, hence, these participants have come close to or have completed their high school education.

Income for the majority of the sample (51.3%) was limited to social welfare, 28% were gainfully employed, 5% received unemployment insurance and 15% received an income from other sources. As can be observed in Table 10, the women were slightly older than the men, but the difference is

not statistically significant. For the entire sample, the mean age at first admission to an inpatient psychiatric ward was 30.2 years. The youngest participant was 7 and the oldest was 62 years old at the time of the first hospitalization. There is no significant difference in the average age at first admission between male and female participants.

Table 10: Sample Characteristics

	Women	Men	P
Age	Years	Years	
Mean (Standard deviation)	44.15 (10.61)	40.27 (10.90)	0.72**
Age at first hospitalization	Years	Years	
Mean (Standard deviation)	31.20 (10.72)	29.07 (10.03)	0.84**
Length of previous hospitalizations	Days	Days	
Mean (Standard deviation)	396.83 (434.83)	391.88 (560.22)	0.84** ♀
Principal diagnosis	N (%)	N (%)	
Bipolar disorder	42 (52.6)	16 (22.9)	< 0.001*
Schizophrenia	9 (11.3)	38 (54.3)	
Schizoaffective disorder	6 (7.5)	9 (12.9)	
Major depression	17 (21.3)	4 (5.7)	
Delusional disorder	6 (7.5)	3 (4.3)	

Note: \* Chi-square test; \*\* 2-tailed t-test; ♀ two male outliers omitted

About one-third of the participants (22 men and 27 women) had been hospitalized more than one year in total during their life. Two men with a year or more of total previous hospitalization days stood out with 6525 and 4292 days of hospitalization, respectively. When the two aforementioned participants are left out of the analysis, the overall mean for the entire sample drops to 394.5 days of previous hospitalizations, with a standard deviation of

494.6 days, and a median of 226.5 days, ranging from 1 to 3090 days. No difference was observed between males and females in the average length of previous hospitalizations. The distribution of the diagnoses of the men and the women differs significantly ( $p < 0.01$ ), with proportionally more women than men having a diagnosis of bipolar disorder and more men than women with a diagnosis of schizophrenia.

Table 11 presents demographic and personal antecedents of the participants within each diagnostic category. The categories were compared using a chi-square test for qualitative variables and ANOVA (equal variances) or Kruskal-Wallis (unequal variances) tests for quantitative variables. As can be seen in Table 11, proportionally more participants with schizophrenia than those with other diagnoses received welfare payments. Most of the participants with major depression and delusional disorder were working or were receiving unemployment insurance. The participants diagnosed with schizophrenia and schizoaffective disorder were significantly younger than participants in other groups. The age at onset of illness is significantly different between participants with different diagnoses: participants with major depression were diagnosed later in life than participants with schizophrenia and with schizoaffective disorder. This is true for both the men ( $p < 0.01$ ) and the women ( $p = 0.04$ ). The number of previous hospitalizations and the total number of days of previous hospitalizations are significantly lower for participants with major depression than for participants with other diagnoses.

Table 11: Characteristics of participants within each diagnostic category

	Bipolar disorder	Schizo-phrenia	Schizo-affective disorder	Major depression	Delusional disorder	P
Participants	N (%)	N (%)	N (%)	N (%)	N (%)	-
	58 (38.7)	47 (31.3)	15 (10.0)	21 (14.0)	9 (6.0)	
Socio-economic status	N (%)	N (%)	N (%)	N (%)	N (%)	
On welfare	27 (35.1)	35 (45.5)	12 (15.6)	2 (2.6)	1 (1.3)	< 0.001*
Age (years)						
Mean	45.00	38.85	38.13	45.19	43.78	0.015**
SD	10.74	8.60	11.68	11.83	13.84	
Years of schooling						
Mean	12.12	11.84	10.93	11.38	10.72	0.758**
SD	4.65	8.60	3.65	4.35	3.77	
Age at onset of illness (years)						
Mean	30.31	26.94	25.27	38.10	36.44	0.000†
SD	9.96	8.02	10.94	8.53	15.57	
Women's age at onset of illness (years)						0.041**
Mean	29.29	27.89	27.50	37.47	35.50	
SD	9.98	6.79	3.46	9.27	15.74	
Men's age at onset of illness (years)						0.003**
Mean	33.00	26.71	23.78	40.75	38.33	
SD	9.68	8.35	9.48	3.78	18.50	
Number of previous hospitalizations						
Mean	9.29	6.62	9.27	2.10	5.33	0.000†
SD	6.71	5.27	4.50	2.91	6.54	
Number of days of previous hospitalizations						
Mean	405	724	433	99	341	0.000†
SD	360	1234	366	98	527	

Note: \* Chi-square test; \*\* ANOVA; † Kruskal-Wallis



### Instruments

The final version (see "Discussion" in Study II) of the FLSA was used in the present study (see Appendix F). The subscale means were calculated as the average ratings for items in the subscale, provided that a sufficient number of questions in the subscale were answered. For the Personal Hygiene subscale, there were nine items in the scale for the first 31 participants, and ten items in all for the rest of the participants (an item on foot care was added), but one was directed only at men (shaving) and one was directed only at women (sanitary napkins). The minimum number of answered items was set at six out of nine for the first 31 participants and seven out of ten for the rest. A minimum of eight out of the nine items on the Clothes Maintenance subscale had to be rated, four out of five on the Eating and Nutrition subscale, 14 out of 16 on the Milieu Maintenance subscale, seven out of ten on the Money Management subscale, six out of nine on the Community Skills subscale, six out of seven on the Health subscale and seven out of ten on the Leisure subscale. According to these requirements, out of the 150 participants in the study, 140 participants had complete ratings on all subscales, thus allowing total global scores to be calculated.

### Procedure

Inter-rater reliability. The procedure for estimating the inter-rater reliability was similar to that of Study II. A total of 45 participants were evaluated by Judge # 1. Judge # 2 assessed 20 of these 45 participants, Judge # 3 evaluated 21 of the 45, and finally, Judge # 4 assessed four

participants.

Test-retest reliability. Of the 150 participants evaluated by Judge # 1 and then discharged from hospital, 45 were assessed again within two weeks of completion of the first evaluation by Judge # 4. It is to be noted that the 45 participants involved in the test-retest were different from those participating in the inter-rater reliability study.

Follow-up. Participants were followed for 12 months after discharge from the inpatient ward where they were recruited for the study, and information on rehospitalizations was extracted from files.

## Results

### Objective I – Reliability

#### Inter-rater reliability

As in Study II, reliability was estimated using the kappa statistic. To compute the kappa on the total score and on subscale scores, the scores were first converted to three categories (0, 1 and 2). The kappas were then computed for pairs of judges. The kappa for the total scores of Judges # 1 and # 2 for 20 participants is 0.917; the kappa for total scores between Judges # 1 and # 3 for 21 participants is 0.943; the kappa for total scores between Judges # 1 and # 4 for 4 participants is 0.883. The kappa for total scores between Judge # 1 and the other three judges combined for all 45 participants is 0.927. As in Study II, the inter-rater reliability for the total score is very high.

Table 12 presents the inter-rater reliability coefficients (kappa) for the subscale scores for 45 participants comparing the ratings of Judge # 1 to

those of the other three judges combined. The kappas are high, ranging from 1.000 on the Clothes Maintenance subscale, to 0.835 on the Eating and Nutrition subscale. These kappa coefficients are very close to those obtained with the 31 participants in Study II.

Table 12: Inter-rater Reliability for Subscale Scores (Judge #1 Compared to Other Judges Combined)

Subscale	Kappa
Personal hygiene	0.975
Clothes maintenance	1.000
Eating and nutrition	0.835
Milieu maintenance	0.888
Money management	0.930
Community skills	0.899
Health	0.895
Leisure	0.925

### Test-retest reliability

It is important to note that test-retest reliability is greatly influenced by the evolution and adaptation of the participant to the demands of his/her milieu between the two assessments. Since participants who were eventually readmitted may have deteriorated during the two-week interval between the initial evaluation and the retest, results will be presented for participants who were readmitted and for those who were not. Again, the kappa statistic is used to measure reliability. The ratings of the scores have been previously described.

The overall kappa for the test-retest is 0.542. Table 13 presents the kappa coefficients comparing the test and the retest of each subscale. Table 13 also includes the percent of agreement between the raters. The

percentage of agreement is computed by dividing the number of participants with the same score on both evaluations by the total number of participants. Test-retest results for participants who were and who were not rehospitalized are compared. As can be seen, the percentage of agreement is greater for participants not readmitted than for those who were.

Table 13: Test-retest Reliability for Subscale Scores

Subscale	Kappa			Percent agreement		
	Total	NR	R	Total	NR	R
Personal Hygiene	0.313	0.259	0.340	83	86	78
Clothes Maintenance	0.121	0.271	0.000	82	89	74
Eating and Nutrition	0.407	0.332	0.455	86	88	84
Milieu Maintenance	0.492	0.591	0.352	75	83	65
Money Management	0.491	0.529	0.436	76	82	70
Community Skills	0.579	0.647	0.495	92	93	90
Health	0.533	0.452	0.602	82	82	83
Leisure	0.624	0.608	0.642	81	80	82

NR = not readmitted; R = readmitted

The kappa coefficients are generally low, with the lowest kappa on the Clothes Maintenance subscale (0.121) and the highest on the Leisure subscale (0.624). There is a trend of higher test-retest reliability estimates on 4 out of 8 subscales for the non-readmitted group, compared to the readmitted group. Nevertheless, according to Fleiss (1981), by convention, moderate to very good agreement is reflected by *K* values above 0.4. Hence, 6 out of 8 subscales meet this criteria.

The percent agreement between the two evaluations are fairly high, ranging from 80% to 93% for the participants that were not rehospitalized during the follow-up period, and from 65% to 90% for the group that was rehospitalized. The overall percent of agreement between the raters are fairly

high.

Differences in ratings from the first and second assessments were examined. Among the 45 participants, 14 were diagnosed with a bipolar disorder, 15 schizophrenia, 5 a schizoaffective disorder, 7 a major depression, and 4 a delusional disorder. All 45 participants had between 2 and 28 changes on individual items of the FLSA at the second testing. On the Personal Hygiene subscale, 28 participants had at least one change on the retest; on the Clothes Maintenance subscale, 32 participants had at least one change; on the Eating and Nutrition subscale, 21 participants had at least one change; on the Milieu Maintenance subscale, 39 participants had at least one change; on the Money Management subscale, 41 participants had at least one change; on the Community Skills subscale, 19 participants had at least one change; on the Health subscale, 31 participants had at least one change, and finally, on the Leisure subscale, 43 participants had at least one change on the retest items. Altogether, there were 326 items that were scored higher at retest than on the initial assessment, while 277 items were scored lower than at the initial assessment. Of the 45 participants who were retested, 15 did worse, or had more items that were scored lower on the retest than on the first evaluation; 4 remained the same, that is, obtained lower and higher ratings on an equal number of items on the retest; 26 did better on the retest, or obtained higher ratings on more items than at the first evaluation. Changes in scores are presented in Table 14, by diagnosis and gender.

Table 14: Retest Participants' Results by Diagnosis and Gender (n=45)

Diagnosis	N	Gender	Did better	Did worse	Stayed same
Bipolar disorder	14	Women	6	1	1
		Men	2	4	--
Schizophrenia	15	Women	2	1	1
		Men	6	5	--
Schizoaffective disorder	5	Women	--	--	1
		Men	3	1	--
Major depression	7	Women	3	1	--
		Men	1	1	1
Delusional disorder	4	Women	2	1	--
		Men	1	--	--
Total			26	15	4

More than 50% of the participants (n = 26) did better on the retest than on the original evaluation. Fifteen of them returned to live alone after discharge, while 7 were placed in or returned to a supervised milieu; the rest were discharged to the home they shared with a significant other (n = 4). Among those who did worse on the retest, 7 returned to live alone, 5 with others in a group home, one with friends, and 2 returned to share accommodations with their spouse. Those who stayed the same (n = 4) returned to live on their own. The test-retest results appear to support the premise that the sample in question is unstable and generally, unpredictable.

#### Objective II – Content and Construct Validity

##### Content Validity

The content validity was investigated by a questionnaire (see APPENDIX G) which sought information about the use and utility of the FLSA in a clinical setting. Five occupational therapists, each with between 5 and 20

years' experience with mentally disordered clients completed the questionnaire, after having used the final version of the FLSA with their clients. Table 15 presents the results of their evaluation.

The qualitative evaluation indicates that a majority of the occupational therapists responded positively to the items of the evaluation. One hundred per cent of them rated the FLSA as acceptable time-wise, 80% found it easy to use and quite useful in treatment planning, and 80% thought it had a good potential to provide useful information about the evaluated participants. The content validity is therefore considered excellent.

#### Construct Validity

To investigate the construct validity of the FLSA, two analyses were conducted. First, the internal structure of the assessment instrument was analyzed by examining the inter-item correlations within each subscale, using Cronbach's alpha co-efficient (Bland & Altman, 2002). This was done in order to assess the extent to which all the items within a subscale evaluate the same skill. Second, the relationships among the subscales were examined. Table 16 presents the alpha reliability coefficients for the items of each subscale. The alpha coefficients range from 0.5889 (Personal Hygiene scale for the women) to 0.9262 (Milieu Maintenance). These coefficients are generally high, with all the scale items above 0.5, showing good internal consistency.

Pearson correlation coefficients were calculated between subscales in order to assess how the subscales were related to each other. Ten

participants did not have the minimally required number of scores on certain subscales, as mentioned previously, therefore the following correlation coefficients were calculated on 140 participants.

Table 15: Results of Occupational Therapists' Evaluation of the FLSA

	Votes (n = 5)	% of judges
Time required to use this assesment		
30-40 min	0	0
40-50 min	0	0
50-60 min	0	0
60-90 min	1	20
90-120 min	4	80
Is this time frame acceptable ?		
Yes	5	10
No	0	0
Uncertain	0	0
Degree of difficulty in using this assessment		
1 (difficult)	0	0
2	0	0
3	1	20
4	4	80
5 (easy)		
Was it useful in treatment planning ?		
1 (very little)	0	0
2	0	0
3	1	20
4	4	80
5 (a good deal)	0	0
Were the items understood correctly ?		
1 (not at all)	0	0
2	0	0
3	0	0
4	2	40
5 (definitely)	3	60
What is its potential general usefulness ?		
1 (not at all)	0	0
2	0	0
3	0	0
4	4	80
5 (very useful)	1	20



Table 16: Cronbach's Alpha Coefficients for Items of Each Subscale

Subscale	Alpha
Personal Hygiene (Men)	0.8282
Personal Hygiene (Women)	0.5889
Clothes Maintenance	0.8997
Eating and Nutrition	0.6628
Milieu Maintenance	0.9262
Money Management	0.8287
Community Skills	0.6885
Health	0.6900
Leisure	0.6070

Table 17 presents the correlation coefficients of the subscales. As can be seen, all the correlations between the subscale scores themselves and between the subscale scores and the total global score are positive. Hence, the subscales are fundamentally measuring a common underlying factor. Most are significant and tend toward large correlation coefficients. The Personal Hygiene and Clothes Maintenance subscales are the most highly correlated subscales ( $r = 0.74$ ); Milieu Maintenance is also highly correlated with Money Management ( $r = 0.69$ ) as well as with Clothes Maintenance ( $r = 0.54$ ). Milieu Maintenance correlates best with the total score ( $r = 0.88$ ), while Eating and Nutrition correlates least with the total score ( $r = 0.42$ ). There appears to be little association between Community Skills and (a) Clothes Maintenance ( $r = 0.08$ ,  $p = 0.35$ ), (b) Eating and Nutrition ( $r = 0.17$ ,  $p = 0.05$ ), and (c) Personal Hygiene ( $r = 0.22$ ,  $p = 0.01$ ). There are low correlations between Leisure and Clothes Maintenance ( $r = 0.14$ ,  $p = 0.10$ ), and between Leisure and Eating and Nutrition ( $r = 0.17$ ,  $p = 0.05$ ).

Table 17: Pearson Correlation Coefficients of the Subscales (N = 140)

Scale	A.	B.	C.	D.	E.	F.	G.	H.
A.	1.0000 p=0.000	0.7438 p=0.000	0.2859 p=0.001	0.4812 p=0.000	0.3968 p=0.000	0.2160 p=0.010	0.3794 p=0.000	0.2410 p=0.004
B.	0.7438 p=0.000	1.0000 p=0.000	0.3313 p=0.000	0.5387 p=0.000	0.3970 p=0.000	0.0802 p=0.346	0.3593 p=0.000	0.3265 p=0.000
C.	0.2859 p=0.001	0.3313 p=0.000	1.0000 p=0.000	0.2538 p=0.002	0.3200 p=0.000	0.1699 p=0.045	0.2822 p=0.001	0.3265 p=0.000
D.	0.4812 p=0.000	0.5387 p=0.000	0.2538 p=0.002	1.0000 p=0.000	0.6947 p=0.000	0.4179 p=0.000	0.3131 p=0.000	0.3265 p=0.000
E.	0.3968 p=0.000	0.3970 p=0.000	0.3200 p=0.000	0.6947 p=0.000	1.0000 p=0.000	0.4179 p=0.000	0.3131 p=0.000	0.3265 p=0.000
F.	0.2160 p=0.010	0.0802 p=0.346	0.1699 p=0.045	0.2896 p=0.001	0.4179 p=0.000	1.0000 p=0.000	0.3131 p=0.000	0.3265 p=0.000
G.	0.3794 p=0.000	0.3593 p=0.000	0.2822 p=0.001	0.3979 p=0.000	0.4274 p=0.000	0.3131 p=0.000	1.0000 p=0.000	0.3265 p=0.000
H.	0.2410 p=0.004	0.1397 p=0.100	0.1697 p=0.045	0.2935 p=0.000	0.3542 p=0.000	0.3986 p=0.000	0.3265 p=0.000	1.0000 p=0.000
Global	0.6836 p=0.000	0.6668 p=0.000	0.4188 p=0.000	0.8804 p=0.000	0.8144 p=0.000	0.4881 p=0.000	0.6061 p=0.000	0.5217 p=0.000

A = Personal Hygiene  
E = Money ManagementB = Clothes Maintenance  
F = Community SkillsC = Eating and Nutrition  
G = HealthD = Milieu Maintenance  
H = Leisure

The analyses presented so far examined the psychometric properties of the FLSA. Further analyses examine the relationship of subscale and total scores with rehospitalization, and with personal and clinical characteristics.

#### Total Scores on FLSA

Construct validity is defined as “the property of having appropriate relationships with other variables” (Bland & Altman, 2002, p. 607). In order to further establish the construct validity of the FLSA, the associations between scores on the FLSA and personal and demographic characteristics of the participants were examined.

By gender. An independent, two-tailed t-test was used in order to ascertain whether differences exist between the total FLSA scores obtained by male and female participants. The women obtained significantly higher total scores than the men ( $p < 0.01$ ). The mean score of all the participants on the FLSA was 1.528, with a score of 1.653 for the women and 1.385 for the men. The 95% confidence interval (95% CI) for the difference between the two groups is [0.177 – 0.358].

By diagnosis. Because of the heterogeneity of the variances, a Kruskal-Wallis test was used to determine if there were differences in scores obtained by participants with different diagnoses. Table 18 presents the FLSA scores by diagnostic category. The Kruskal-Wallis test indicates that there are significant differences between the scores obtained by participants with different diagnoses ( $p < 0.01$ ). As can be seen in Table 18, participants with

schizophrenia and schizoaffective disorder obtained significantly lower scores than the participants with other disorders. The participants with major depression obtained significantly higher scores than those with other disorders, except for those with a delusional disorder.

Table 18: Mean Scores on the FLSA by Diagnostic Category for Males and Females (n = 140)

Diagnosis	Sex	N	Mean	SD	95% CI
Bipolar disorder	Men	16	1.557	0.199	1.451 -1.663
	Women	39	1.632	0.242	1.554 -1.711
	Total	55	1.610	0.231	1.548 -1.673
Schizophrenia	Men	35	1.282	0.296	1.180 -1.384
	Women	9	1.573	0.251	1.380 -1.766
	Total	44	1.342	0.308	1.247 -1.435
Schizoaffective disorder	Men	8	1.272	0.260	1.054 -1.489
	Women	6	1.546	0.355	1.173 -1.919
	Total	14	1.389	0.324	1.202 -1.576
Major depression	Men	4	1.800	0.063	1.701 -1.900
	Women	15	1.767	0.110	1.706 -1.828
	Total	19	1.774	0.102	1.725 -1.823
Delusional disorder	Men	2	1.437	0.086	0.667- 2.206
	Women	6	1.726	0.122	1.598 -1.854
	Total	8	1.654	0.172	1.510 -1.798
All categories	Men	65	1.385	0.299	1.311 -1.459
	Women	75	1.653	0.232	1.600 -1.706
	Total	140	1.528	0.296	1.479 -1.578

#### Subscale Mean Scores

As can be seen in Table 19, which presents the mean subscale scores, the highest mean score was obtained on the Clothes Maintenance subscale (1.850) and the lowest mean score on the Leisure subscale (0.975). Table 19 also shows that the Clothes Maintenance, Eating and Nutrition, and Community Skills subscales' mean scores are higher than all the other subscales at the 95%

confidence level. One explanation for these results may be the ease with which the items on the first two subscales can be accomplished even by acutely disordered individuals. Dressing appropriately and feeding oneself do not require many complicated nor highly developed life skills; these tasks are fairly basic and hence, easily executed. The high mean score on the Community Skills subscale may be a reflection of participants' familiarity with their milieu and its resources.

Table 19: Mean Scores for Each Subscale

Subscale	N	Mean	SD	Range	95% CI	P
Personal Hygiene	147	1.699	0.397	0.111 - 2.000	1.635 - 1.764	<0.001
Clothes Maintenance	146	1.850	0.301	0.444 - 2.000	1.801 - 1.905	<0.001
Eating and Nutrition	150	1.805	0.311	0.800 - 2.000	1.755 - 1.855	<0.001
Milieu Maintenance	149	1.324	0.615	0.125 - 2.000	1.224 - 1.423	<0.001
Money Management	150	1.448	0.477	0.100 - 2.000	1.371 - 1.525	<0.001
Community Skills	150	1.795	0.266	0.750 - 2.000	1.752 - 1.838	<0.001
Health	145	1.603	0.403	0.571 - 2.000	1.537 - 1.669	0.089
Leisure	150	0.975	0.367	0.200 - 2.000	0.916 - 1.034	<0.001
Total score	140	1.528	0.296	0.755 - 1.947	1.479 - 1.578	<0.001

The highest standard deviation in Table 19 was calculated for the Milieu Maintenance subscale: this renders it potentially more discriminatory and useful in nature, since it has the largest variation. This subscale also includes the largest number of items.

A paired ANOVA performed between the subscales indicates that the scores are significantly different from each other ( $F \{7, 133\} = 123.51, p < 0.01$ ). Post-hoc tests indicate that all subscale scores except Health have a mean score that is significantly different from the total (global) mean score. The post-hoc tests were done using the deviation statement of the paired

ANOVA command in the SPSS statistical program. These tests compare the mean of each subscale to the total (global) mean score. All pair-wise comparisons between the subscales were then executed using a Bonferroni adjustment for multiple comparisons. The results are the following: (1) Personal Hygiene is significantly different from Clothes Maintenance, Milieu Maintenance, Money Management and Leisure; (2) Clothes Maintenance is significantly different from Milieu Maintenance, Money Management, Health, and Leisure; (3) Eating and Nutrition is significantly different from Milieu Maintenance, Money Management, Health, and Leisure; (4) Milieu Maintenance is significantly different from Personal Hygiene, Clothes Maintenance, Eating and Nutrition, Community Skills, Health, and Leisure; (5) Money Management is significantly different from Personal Hygiene, Clothes Maintenance, Eating and Nutrition, Community Skills, Health, and Leisure; (6) Community Skills is significantly different from Milieu Maintenance, Money Management, Health, and Leisure; (7) Health is significantly different from Clothes Maintenance, Eating and Nutrition, Milieu Maintenance, Money Management, Community Skills, and Leisure; (8) Leisure is significantly different from all the other seven subscales.

#### The association of gender and diagnosis with subscale scores

Eight separate analyses were conducted on each of the subscales, to identify associations with gender and diagnosis. First, the association of gender with each subscale score was explored, using 2-tailed independent

Table 20: Relationship Between Subscale Scores and Diagnosis for Each Gender

Subscale	N	Value of statistic	df	p
Personal Hygiene				
t-test on gender	147	$t = 5.059$	91.38	0.000 <sup>s</sup>
test on diagnosis for women	78	$\chi^2 = 2.857$	4	0.582
test on diagnosis for men	69	$\chi^2 = 11.040$	4	0.026
Clothes Maintenance				
t-test on gender	146	$t = 5.018$	79.10	0.000 <sup>s</sup>
test on diagnosis for women	78	$\chi^2 = 4.341$	4	0.362
test on diagnosis for men	68	$\chi^2 = 3.662$	4	0.454
Eating and Nutrition				
t-test on gender	150	$t = 1.843$	148.00	0.067
test on diagnosis for women	80	$\chi^2 = 3.179$	4	0.528
test on diagnosis for men	70	$\chi^2 = 5.722$	4	0.221
Milieu Maintenance				
t-test on gender	149	$t = 6.620$	147.00	0.000
test on diagnosis for women	80	$\chi^2 = 6.304$	4	0.178
test on diagnosis for men	69	$\chi^2 = 15.423$	4	0.004
Money Management				
t-test on gender	150	$t = 3.789$	134.58	0.000 <sup>s</sup>
test on diagnosis for women	80	$\chi^2 = 5.430$	4	0.246
test on diagnosis for men	70	$\chi^2 = 13.895$	4	0.008
Community Skills				
t-test on gender	150	$t = 0.247$	142.25	0.805 <sup>s</sup>
test on diagnosis for women	80	$\chi^2 = 1.928$	4	0.749
test on diagnosis for men	70	$\chi^2 = 8.130$	4	0.087
Health				
t-test on gender	145	$t = 2.178$	128.92	0.031 <sup>s</sup>
test on diagnosis for women	78	$\chi^2 = 10.354$	4	0.035
test on diagnosis for men	67	$\chi^2 = 10.085$	4	0.039
Leisure				
t-test on gender	150	$t = 0.934$	148.00	0.352
test on diagnosis for women	80	$\chi^2 = 2.871$	4	0.580
test on diagnosis for men	70	$\chi^2 = 10.060$	4	0.039

<sup>s</sup>Separate variances t-tests were conducted because equal variances were not assumed.

t-tests. The analyses indicate that gender is significantly associated with scores on five out of the eight subscales: Personal Hygiene ( $p < 0.01$ ); Clothes Maintenance ( $p < 0.01$ ); Milieu Maintenance ( $p < 0.01$ ); Money Management ( $p < 0.01$ ); and Health ( $p = 0.03$ ). On all these subscales, men scored significantly lower than women. Table 20 presents the results of these analyses.

Second, since there was a significant difference between genders, analyses to verify the associations between the diagnostic groups and each subscale score were conducted separately for male and female participants. Because of heterogeneity of variances, Kruskal-Wallis tests were calculated. Among women, diagnosis is associated only with the Health subscale ( $p = 0.04$ ). There is a tendency for women with schizophrenia and those with delusional disorder to have obtained lower scores than women with other disorders. Among men, the diagnosis is associated with scores for Personal Hygiene ( $p = 0.03$ ), Milieu Maintenance ( $p < 0.01$ ), Money Management ( $p < 0.01$ ), Health ( $p = 0.04$ ) and Leisure ( $p = 0.04$ ). On all these subscales, the male participants with schizophrenia obtained lower scores than the men with other disorders.

### Objective III – Predictive Validity

#### Life skills and rehospitalization

Comparisons were conducted of the FLSA subscale scores obtained by the participants who were and who were not rehospitalized during the



follow-up period. Scores on the Milieu Maintenance ( $p = 0.03$ ) and Money Management ( $p = 0.02$ ) subscales were significantly lower for the rehospitalized than the non-rehospitalized participants, as presented in Table 21. The 95% CI of the difference between scores on the Milieu Maintenance was  $[0.0187 - 0.4121]$  and  $[0.0337 - 0.3365]$  for the Money Management subscale.

Table 21: Mean Scores on Subscales for Rehospitalized and Non-rehospitalized Participants

Subscale	Mean	SD	Range	N	P
Personal Hygiene					
Rehospitalized	1.70	0.37	0.38 – 2.00	74	0.995
Non-rehospitalized	1.70	0.43	0.11 – 2.00	73	
Clothes Maintenance					
Rehospitalized	1.85	0.28	0.89 – 2.00	73	0.949
Non-rehospitalized	1.85	0.33	0.44 – 2.00	73	
Eating and Nutrition					
Rehospitalized	1.77	0.36	0.80 – 2.00	76	0.120
Non-rehospitalized	1.85	0.25	1.20 – 2.00	74	
Milieu Maintenance					
Rehospitalized	1.22	0.62	0.13 – 2.00	75	0.032
Non-rehospitalized	1.43	0.60	0.13 – 2.00	74	
Money Management					
Rehospitalized	1.36	0.49	0.10 – 2.00	76	0.017
Non-rehospitalized	1.54	0.45	0.10 – 2.00	74	
Community Skills					
Rehospitalized	1.81	0.24	0.78 – 2.00	76	0.403
Non-rehospitalized	1.78	0.29	0.75 – 2.00	74	
Health					
Rehospitalized	1.58	0.39	0.67 – 2.00	75	0.516
Non-rehospitalized	1.63	0.42	0.57 – 2.00	70	
Leisure					
Rehospitalized	0.98	0.41	0.20 – 2.00	76	0.858
Non-rehospitalized	0.97	0.32	0.20 – 2.00	74	
Total score					
Rehospitalized	1.51	0.30	0.76 – 2.00	70	0.188
Non-rehospitalized	1.56	0.29	0.85 – 2.00	70	

Gender. The same analyses were conducted for male and female participants. Among the men, there were no significant differences between the mean subscale scores obtained by those who had and those who had not been readmitted during the follow-up period (all  $p > 0.12$ ). By contrast, among the women, those who had been rehospitalized obtained significantly lower scores on the Clothes Maintenance ( $p = 0.032$ ), Milieu Maintenance ( $p = 0.002$ ) and Money Management ( $p = 0.015$ ) subscales than the non-rehospitalized women.

Previous analyses had shown that both gender and diagnosis are significantly associated with scores on the Milieu Maintenance subscale, but not with the other subscales. We hypothesized that this subscale may index participants' general functional level, requiring several skills, such as task planning, organization, time and equipment considerations, and other cognitive and spatial abilities. But the Milieu Maintenance subscale is one of the only subscales whose items could also be executed by others in the person's immediate milieu. Hence, an individual's true level of functioning could be accurately assessed only when he/she performs the tasks autonomously. Consequently, the mean scores on the Milieu Maintenance subscale were re-examined, looking at the scores obtained on the items performed autonomously and comparing the quality of the items' execution (positive vs. negative quality ratings described previously were used) among participants.

The success rate was calculated by dividing the percentage of items executed independently and scored as successfully achieved (positive rating), by the total number of items ( $n = 16$ ) in the subscale. Sixty-two participants who executed the items autonomously on the subscale obtained 100% success ratings. To determine whether gender and/or diagnosis influenced success, an analysis of variance on the entire sample using the success rate as the dependent variable was conducted. Both diagnosis ( $F \{4\} = 7.73, p < 0.01$ ) and gender ( $F \{1\} = 7.88, p < 0.01$ ) were significantly associated with success, while the interaction was not. Therefore, the success rate of executing items on the Milieu Maintenance subscale is influenced by both gender and diagnosis.

Nevertheless, this last analysis does not take into account the number of items that were completed by the participant. That is, even if one item was completed successfully and independently by a participant, it was included in the analysis, but completion of one item does not index autonomous functioning. We considered the autonomous completion of 14 out of 16 items as indicative of functional independence. By this criterion, the number of "functionally independent" participants dropped to 43 (those who obtained a 100% success rate and who had completed a majority of the items). Another 43 participants achieved between 60% and 99% success ratings. Both gender ( $F \{1\} = 9.61, p = 0.003$ ) and diagnosis ( $F \{4\} = 8.34, p = 0.000$ ) were found to be significantly associated with success for those who completed at

least 14 out of 16 items in the scale. The men (95% CI = 0.538 - 0.715) scored significantly lower than the women (95% CI = 0.824 - 0.929).

Two series of analyses using post-hoc Bonferroni multiple comparisons were conducted, and each diagnostic category was compared to the other four, in sequence. The first series compared the diagnostic categories, using the success rate for executing any number of items autonomously on the subscale. The second series compared the success rate for executing 14 or more items autonomously on the subscale. In both series of analyses, the participants with major depression achieved greater success than participants with other disorders.

In summary, associations were identified between FLSA scores and rehospitalizations. The Milieu Maintenance and Money Management subscale scores were lower, on average, for the rehospitalized than the non-rehospitalized participants. Diagnosis was associated with the success rate of executing the Milieu Maintenance items. Among the women, those who were rehospitalized obtained lower scores on three subscales (Clothes Maintenance, Milieu Maintenance and Money Management) than those not rehospitalized during the follow-up.

#### Rehospitalization and individual items

Possible associations of individual items with rehospitalization were explored. On the Health subscale, item # 56 scores (keeps appointments with health professionals;  $\chi^2 \{1\} = 5.31$ ,  $p = .02$ ) and item # 60 scores (self-

administers medication reliably;  $\chi^2 \{1\} = 5.07, p = .02$ ) were significantly different for the rehospitalized and non-rehospitalized participants. More of the rehospitalized (93%) than the non-rehospitalized (81%) participants were seen in the outpatient clinic. Proportionally fewer of the rehospitalized (51%) participants than the non-rehospitalized (70%) ones took their medication reliably. Within gender analyses for scores on item # 56 indicated no differences for the men and the women, who were and who were not rehospitalized. Scores for item # 60 were significantly different for the women who were and who were not rehospitalized. Among the women who were readmitted, 51% self-administered their medication reliably, as compared to 76% of the women who were not readmitted.

On the Milieu Maintenance subscale, the scores on item # 32 (washes the dishes as needed;  $\chi^2 \{2\} = 7.82, p = .02$ ), and item # 45 (prepares snacks;  $\chi^2 \{1\} = 5.61, p = .02$ ) differed significantly between the readmitted and non-readmitted participants. Among the men, the difference was significant for item # 32, while among the women the difference was significant only for item # 45. Among the readmitted men, only 54% washed their dishes autonomously and properly, as compared to 73% of the men who were not readmitted. While 87% of the women who were rehospitalized prepared their own snacks, 100% of the women who were not readmitted successfully carried out this task.

Other single items (# 24 – 36; # 45 – 47; # 58, 60, 61, 62, 66, 67, 68,

70, 71, 73) identified as potentially having an association with rehospitalization were examined. No significant differences were found for scores obtained by rehospitalized and non-rehospitalized men on these items. Among the women, scores obtained on items # 45 ( $\chi^2 \{1\} = 5.22$ ,  $p = .02$ ), # 60 ( $\chi^2 \{1\} = 5.10$ ,  $p = .03$ ), # 71 (budget planning), # 26 (changing the sheets), and # 47 (proper use of cleaning products) were significantly different for the rehospitalized and non-rehospitalized participants.

#### Predicting rehospitalization

Using forward step-wise logistic regression analyses to predict rehospitalization during the 12 months following discharge, the following analyses were performed, all controlling for gender. The first analysis was conducted on the different subscale scores. The Milieu Maintenance score ( $p = 0.010$ ) was the only subscale that predicted rehospitalization. A separate analysis was conducted on the total FLSA score, which proved to be almost significant ( $p = 0.084$ ), but not quite. As a second step, an analysis was executed including as potential predictors: age, civil status (taking married status as a reference), financial status, education level, number of previous hospitalizations, diagnostic category (taking the group with delusional disorder as a reference). The age of onset variable was not included in the model since it proved to have a very strong correlation with age and with the number of previous hospitalizations; we decided to keep the latter two variables instead of the one, since they carry more information. In this second

analysis, number of previous hospitalizations ( $p = 0.001$ ) and civil status ( $p = 0.020$ ) came out as significant predictors. As a final step, a logistic regression controlling for gender was done including only the three significant variables that came out of the two previous analyses. The results indicate that the number of previous hospitalizations, civil status, and the Milieu Maintenance subscale score are the best predictors of rehospitalization. The results of these analyses are presented in Table 22.

Table 22: Predictors of Rehospitalization

Variables entered	Predictor(s)	Beta Coef.	SE	Exp(b)	Sig.
1. Subscale scores	Gender	-0.742	0.419	0.476	0.076
	Milieu Maintenance score $R^2 = 0.052$	-0.899	0.349	0.407	0.010
2. Total score	Gender	-0.484	0.389	0.616	0.213
	Total score $R^2 = 0.024$	-1.147	0.664	0.318	0.084
3. Personal and clinical characteristics	Gender	-0.125	0.357	0.882	0.726
	Number of previous hospitalizations	0.116	0.036	1.123	0.001
	Civil status $R^2 = 0.140$	1.891	0.810	6.628	0.020
4. Significant predictors from Steps 1, 2, & 3	Gender	-0.623	0.440	0.536	0.156
	Number of previous hospitalizations	0.098	0.038	1.103	0.009
	Civil status (not married vs. married)	1.883	0.809	6.575	0.020
	Milieu Maintenance score $R^2 = 0.165$	-0.705	0.360	0.494	0.050

### Predicting the number and length of rehospitalizations

Two series of stepwise multiple linear regression analyses were conducted for predicting the number and length of rehospitalizations. The same sequence of analyses was followed as for the rehospitalization status, first entering subscale and total scores, then personal and clinical characteristics, and finally, resulting significant predictors to predict the number and length of rehospitalizations.

Table 23: Predicting the Number of Rehospitalizations

Variables entered	Predictors	Beta Coef.	Sig.
1. Subscale scores	Gender Money Management $R^2 = 0.034$	-0.463 -0.752	0.188 0.039
2. Total scores	Gender Total score $R^2 = 0.029$	-0.553 -1.205	0.140 0.058
3. Personal and clinical characteristics	Gender Number of previous hospitalizations Age $R^2 = 0.102$	-0.257 0.083 -0.044	0.409 0.002 0.003
4. Significant predictors from Steps 1, 2, & 3	Gender Number of previous hospitalizations Age $R^2 = 0.102$	-0.257 0.083 -0.044	0.409 0.002 0.003

Predicting the number of rehospitalizations. The results presented in Table 23 show that only two predictors of the number of rehospitalizations were identified: the number of previous hospitalizations and age.



Table 24: Predicting Length of Rehospitalization

Variables entered	Predictors	Beta Coef.	Sig.
1. Subscale scores	Gender Milieu Maintenance $R^2 = .054$	-0.277 -0.372	0.092 0.006
2. Total score	Gender Total score $R^2 = .027$	-0.190 -0.524	0.240 0.056
3. Personal and clinical characteristics	Gender Number of previous hospitalizations Civil status (not married vs married) $R^2 = .139$	-0.014 0.041 0.558	0.913 0.000 0.013
4. Significant predictors from Steps 1, 2, & 3	Gender Number of previous hospitalizations Civil status $R^2 = 0.139$	-0.095 0.041 0.561	0.943 0.000 0.013

Predicting length of rehospitalization. The length of rehospitalization was transformed to logarithms in order to normalize the distribution of values. As can be seen in Table 24, only the civil status and the number of previous hospitalizations predict the length of rehospitalization. The unmarried participants have a greater number of days rehospitalized than the married ones. Also, the rehospitalization length increases significantly with the number of previous hospitalizations.

### Conclusions

Based on the analysis of this chapter, the following conclusions can be made. The inter-rater reliability for the FLSA is excellent, with kappas well over 0.5, and with an overall kappa of 0.927. The test-retest reliability is modest, but acceptable, since 6 out of 8 of the subscales reach *K* values above 0.4.

The content validity of the FLSA is very good, as shown by favourable qualitative evaluations by a majority of occupational therapists who actually used the instrument. The construct validity, demonstrated by high alpha coefficients and positive correlation coefficients, indicates the FLSA's good internal consistency.

Several significant gender and diagnostic differences exist on the FLSA's global and subscale scores. For global scores, the women obtained significantly higher global scores than the men. As well, those with major depression obtained significantly higher scores than those with other disorders, except for those with delusional disorder. Participants with schizophrenia and schizoaffective disorder obtained significantly lower scores than the other participants.

Results of ANOVAS on the subscale scores showed that five out of eight subscale scores are gender-related: the men scored significantly lower than the women on the Personal Hygiene, Clothes Maintenance, Milieu Maintenance, Money Management, and Health subscales. Among the men,

those with schizophrenia obtained lower scores than men with other disorders on the Personal Hygiene, Milieu Maintenance, Money Management, Health, and Leisure subscales. For the women, scores on only the Health subscale showed significant differences among diagnostic groups. Those women with schizophrenia and delusional disorder obtained lower scores on the Health subscale than women with other disorders.

Mean scores on the Milieu Maintenance and Money Management subscales showed significant differences between the rehospitalized and the non-rehospitalized participants. Additionally, among the women, there were significant differences in the scores obtained by the readmitted and non-readmitted participants on the Clothes Maintenance subscale.

The FLSA global score did not predict rehospitalization, but the Milieu Maintenance subscale score did, together with the number of previous hospitalizations and the civil status. The number of rehospitalizations is best predicted by age and the number of previous hospitalizations. The best predictors of the length of rehospitalization are the civil status and the number of previous hospitalizations.

### Discussion

The Functional Life Skills Assessment (FLSA) was developed for use by health care providers to evaluate the functional life skills of individuals suffering from major mental disorders. The psychometric properties of the new scale were examined. The association between life skills and

demographic and personal antecedents was investigated. As well, the associations between various life skills and the number and length of rehospitalizations during a 12-month follow-up period were explored.

The psychometric properties of the FLSA include high inter-rater and adequate test-retest reliability, as well as good content, construct, and predictive validity. While the total score did not differentiate between the rehospitalized and non-rehospitalized participants, two subscale scores did. Significant associations between subscale scores, gender, and diagnosis were observed. One of the subscales, namely the Milieu Maintenance, together with the number of previous hospitalizations, and civil status predicted rehospitalization.

#### Reliability

The FLSA has high inter-rater reliability and moderately low test-retest reliability. A kappa value between 0.4 and 0.6 is considered moderate (Landis & Koch, 1977); since the value for the test-retest reliability (0.5) is within this range, the FLSA's test-retest reliability proves adequate. The moderately low test-retest reliability cannot be attributed to differences in scoring, since the inter-rater reliability proved to be excellent. Keeping in mind the robust results of inter-rater agreement on the test-retest, we considered several reasons for the moderately low results on the test-retest kappa.

First, the retest was carried out within two weeks of the original assessment, often resulting in a maximum of four weeks between the

beginning of participants' initial evaluations and completion of the retest. The time period elapsed may have allowed for functional changes to occur. Second, the retest was conducted in the person's natural milieu, whereas the original assessment was begun towards the end of the index hospitalization. Third, instability and unpredictability are characteristic of persons with major mental disorders (Daniels et al., 1998) and may have affected the test-retest results. Finally, scoring on the FLSA uses a three-point scale, which perhaps is too limited. This might have combined with sample characteristics to result in weak test-retest reliability, although the retest findings still fall into the acceptable range.

Surprisingly, out of the 45 participants who completed the retest, over one-half did better, while only about one-third did worse. One explanation may be that once out of a protective environment such as the hospital, participants became more autonomous, due to the opportunity and the need to fend for themselves. In fact, the data show that among those who did better on the retest, more than one-half ( $n = 15$ ) lived alone after discharge. This group was equally composed of men and women. Of those who did worse on the retest, about one-half returned to live alone, and 11 (73%) out of 15 participants were men. Since men with major mental disorders are generally reported to present lower levels of life skills than women (Hintikka et al., 1999; Velligan et al., 1997), the predominance of men among those that did worse is consistent with previous results.

A majority of the participants who showed changes on the retest ( $n = 41$ ) were diagnosed with either bipolar disorder or with schizophrenia, reflecting the instability characterizing these disorders (Goldberg et al., 1995; MacQueen et al., 2000). Brown et al. (1996) reported different results in the evaluations of daily living activities of persons suffering from mental disorders, in the clinic and in their natural milieu. It is unlikely that cognitive variables were responsible for differences in performance at test and retest, as cognitive abilities related to life skills remain relatively stable over a one-month period in the post-acute stage of a psychiatric illness (McAnanama et al., 1999). Hence, variations in symptoms and the milieu in which life skills were assessed may have affected test-retest measures. The performance differences between the hospital and the person's natural milieu suggest that life skills are best assessed in the natural environment (Brown et al., 1996). Indeed, given that a majority of the participants in the present study performed differently on the retest, the participants' natural milieu seems to be the most revealing environment in which to carry out functional assessments.

### Validity

The content validity proved to be positive. Two surveys were conducted in Study I with a variety of mental health care professionals, whose opinions on pertinent life skills items were compiled. As well, the FLSA was favourably evaluated by experienced occupational therapists who tested it.

The ease and usefulness of the assessment, as evidenced by therapists' perceptions, are among the principal attributes of the FLSA. It is a practical tool, administered with a minimal amount of training by health care providers.

The construct validity of the FLSA proved to be good. Both the Cronbach's alpha co-efficient and the Pearson correlation co-efficients were well within acceptable limits. In fact, since all the correlations were positive, the subscales are measuring a common underlying factor. Both the psychometric properties and practical aspects of the FLSA are good, since reliability, validity and applicability are highly acceptable.

#### Subscale mean scores

Gender and diagnosis associations. Scores on five out of eight subscales indicated significant gender differences. The men obtained significantly lower scores than the women on a majority of the subscales. Others have also found gender differences in functional life skills, particularly skills associated with social, domestic, and financial matters (Hintikka et al., 1999; Sood, Baker, & Bledin, 1996; Velligan et al., 1997), with men more functionally impaired than women.

Within the women in the present study, only the Health subscale was significantly associated with diagnosis. Females with schizophrenia and delusional disorder obtained lower scores on this subscale than the women with other diagnoses. Among the men, diagnosis was significantly related with scores on five subscales (Personal Hygiene, Milieu Maintenance, Money

Management, Health, and Leisure). Male participants with schizophrenia obtained lower scores on these subscales than men with other diagnoses. These results indicate that a diagnosis of schizophrenia is associated with lower functional levels in several spheres, when compared to other diagnoses, especially among men. Others have reported similar findings (Bromet et al., 1996; Girard, Fisher, Short, & Duran, 1999). Although functional impairments characterize almost all persons with major mental disorders, the most severely dysfunctional are those with schizophrenia (Harrison et al., 2001). Furthermore, men with this diagnosis are more impaired in more life skills than are women with the same diagnosis.

Despite a general consensus in the literature regarding gender differences of functioning of persons with major mental disorders, one study reports contradictory results. Srinivasan and Thara (1999) conducted a prospective 10-year follow-up of first-episode patients with schizophrenia in India. Among women, the functional outcome on home-making skills was almost the same as occupational functioning among the men. In other words, comparisons of performance in gender-related activities revealed no functional differences between women and men in long-term outcome. Although the sample size is small, the women were as functionally deficient as the men, contrary to findings in developed countries. This is interesting, since course and outcome for schizophrenia have repeatedly been reported to be better in developing countries than in industrialized nations (Hopper &



Wanderling, 2000; Sartorius, Gulbinat, Harrison, Laska, & Siegel, 1996).

The Milieu Maintenance and Money Management subscales differentiated between the rehospitalized and the non-rehospitalized participants, with, as expected, lower scores for those participants who were rehospitalized. Since these two subscales are associated with rehospitalization, it is important to understand what differentiates them from the rest of the subscales. The Milieu Maintenance subscale scores were the only subscale scores that were significantly affected by both gender and diagnosis. This subscale also has the largest standard deviation and the most number of items; this enables it to discriminate among participants' functional performance. It is plausible that a combination of sub-skills, such as task and equipment planning, temporal and spatial considerations, and a variety of additional organizational skills, are needed for successful independent completion of the items. The Money Management subscale also requires a similar series of organizational and planning sub-skills in order to adequately perform the items, for example, budget projections, verification of monetary resources on a regular and continuous basis, and reading and writing skills. Hence, it would appear that items on the Milieu Maintenance and the Money Management subscales require more sophisticated abilities than those needed to complete items on the other subscales of the FLSA.

Additionally, the successful independent completion of the Milieu Maintenance subscale items was found to be significantly associated with

gender and diagnosis. Generally, the men scored significantly lower than the women. The gender differences in functioning confirms results of other studies that also found women to be functionally more independent than men (Hintikka et al., 1999; Sood et al., 1996; Velligan et al., 1997). Furthermore, in the present investigation, when within-gender analyses were conducted, the two subscale scores significantly differentiated only among the rehospitalized and non-rehospitalized women. These within-gender findings point out how important functional independence in certain life skills may be for women with major mental disorders, as compared to men. Serious deficits in specific life skills or a decrease in functional independence in home-making and budgeting may be associated with rehospitalization among women.

The results for the men are different. On five out of eight subscales, and on the global FLSA score, the men obtained lower scores than the women. But there were no significant differences between the group of men that was rehospitalized and the group that was not. This finding implies that the men in our sample who maintained independent community living functioned at more or less the same levels as the men who were rehospitalized, contrary to findings by Sood et al. (1996) and different from the women in our sample. Perhaps the men's performance was scored more leniently than the women's by the all-female judges, reflecting a gender bias in the administration of the FLSA. Since men are generally expected to be less functional on several, if not many life skills, they were possibly scored

less severely than the women. As well, perhaps rehospitalization of men with major mental disorders is influenced by factors other than life skills. These other factors might include acute symptom severity (Postrado & Lehman, 1995; Soni et al., 1994) and poorer capacities for acquisition of life skills (Smith et al., 1997). Nevertheless, the Milieu Maintenance and Money Management subscales appear to measure essential life skills needed for independent community living in persons with major mental disorders.

Diagnostic differences. Results of post-hoc analyses indicated that participants suffering from major depression obtained higher scores on the Milieu Maintenance subscale than those with other disorders. It is interesting to note that the participants with major depression were older at the onset of their disorder and at the index hospitalization than the other participants. Age of onset, a more important risk factor than gender, has been closely associated with rehospitalization (Eaton et al., 1992a). A later age of onset is associated with fewer rehospitalizations and higher functional levels. The later age of onset would allow more time for acquisition and practice of life skills before the illness.

The participants who were diagnosed with a major depression also showed several differences in clinical and demographic characteristics than the other participants: (1) significantly fewer rehospitalizations; (2) fewer previous hospitalizations, both in the group that was rehospitalized and in the group that was not (excluding the small number of participants with a

delusional disorder); and (3) the highest global mean scores on the FLSA. Generally, although the data do not show any significant differences in global life skills scores between the rehospitalized and the non-rehospitalized groups, there still appears to be an *a posteriori* triangular link between rehospitalizations, life skills scores, and diagnosis.

#### Global mean scores

The women obtained significantly higher mean scores on the FLSA than the men. The participants with schizophrenia and schizoaffective disorder obtained the lowest scores, while those with major depression and with delusional disorder obtained higher scores. Since cognitive problems and life skill deficits associated with schizophrenia are more severe and pervasive than those associated with mood disorders (McAnanama et al., 1998), this result concurs with findings from other studies (Calvocoressi et al., 1998; Martinez-Aran et al., 2002).

Global scores did not differentiate between participants who were and who were not rehospitalized. When the association between life skills scores and community tenure was explored, it was found that the total FLSA score was not a significant predictor of rehospitalization.

#### Predictive validity

The Milieu Maintenance subscale score, together with the number of previous hospitalizations and civil status predicted rehospitalization. Separate regression analyses predicting the number and the length of

rehospitalizations revealed that the number of previous hospitalizations and age, and previous hospitalizations and civil status, respectively, were the most significant predictors. Other studies have also found the number of previous hospitalizations to be the best predictor of future hospitalizations (Haro et al., 1994; Hoffmann, 1994; Postrado & Lehman, 1995; Daniels et al., 1998). Age has been found to be highly correlated with rehospitalization rates, and is considered a major influence on variables related to medication compliance, adaptation capacities, and community tenure for persons with schizophrenia (Hoffmann, 1994). Older persons with major mental disorders are more likely to be compliant with medication and treatment routines. Age has also been found to be partially correlated with hospitalization rates and with time spent in hospital (Hoffmann, 1994), concurring with some reports that improvement in schizophrenia occurs in later life (Breier et al., 1991). Civil status has been reported to influence the course and outcome of major mental disorders, with married persons experiencing a more positive outcome.

### Limitations

The present study has several limitations. The FLSA was shown to have good reliability and validity. Concurrent criterion validity was not measured, mainly because no existing comparable assessments could be found. Examining the concurrent validity of the FLSA may be the person of further research studies, given the importance of functional assessment and

the lack of valid and reliable assessment instruments.

We expected to find a significant association between rehospitalization and performance on the Health subscale, but this association was only found on specific items of the subscale, not on the total subscale score. Often, participants' abilities to appropriately take their medication, to renew their prescription or to keep their appointments were difficult to assess. Even among health professionals, there was frequent disagreement concerning participants' trustworthiness in complying with their medication regime and in keeping their appointments. Other sources of information, such as the outpatient team nurse or secretary were consulted, and appointment books and records verified. Non-attendance at follow-up appointments is important in predicting dropping out from outpatient services and eventual readmission, since it infers that these participants are less well than those who attend their appointments (Killaspy et al., 2000). The items on the Health subscale warrant further consideration and perhaps a longer time frame for more precise assessment.

Although a longer follow-up period may be more appropriate for major mental disorders, Daniels et al. (1998) stipulate that in their five-year follow-up of persons with schizophrenia, bipolar disorder and depression, about two-thirds of those readmitted had their first rehospitalization in the year following the index admission. A longer-term study may not necessarily yield different results.

A further consideration in interpreting these findings is the method by which participants were diagnosed. Eligible persons who later became part of the sample by informed consent were diagnosed by several different physicians working in the Department of Psychiatry at Notre-Dame Hospital (CHUM) in Montreal. A more rigorous approach would be to have all diagnoses made with the use of a structured, validated diagnostic protocol, by one physician, which would result in more consistent diagnostic clinical judgments.

Another limitation concerns subscales that did not differentiate between the rehospitalized and the non-rehospitalized participants. Perhaps some items were not refined or sophisticated enough to discern capacities for independent community living. For example, there are no items which touch upon more highly developed self-care skills, such as what the person would do in case of a crisis, or whom they could contact in case of an adverse reaction to medication.

We disregarded Axis II disorders in this study. Personality disorders are known to complicate treatment plans and outcome, and indeed, may have influenced performance on the FLSA. Axis II symptomatology may affect limitations in specific daily life skills. This would further limit the general functional levels of persons with major mental disorders. In fact, it has been shown that individuals with bipolar affective disorder, who also suffer from a personality disorder, have a poor outcome after hospitalization and do not

recover as well as those who do not have an Axis II diagnosis (Dunayevich et al., 2000). Functional assessment of these “double diagnosis” participants might yield interesting results. This type of evaluation may help determine how best to encourage more compliancy with a medication regime, which Dunayevich et al. (2000) present as a major difficulty for these persons.

#### Future research

Future investigations should consider replication of the results of the present study, including examining the concurrent criterion validity. Related research topics include defining the cut-off scores for the two subscales that were found to discriminate between rehospitalized and non-rehospitalized participants, or the development of percentiles to facilitate prediction of rehospitalization. Replacing or refining some items on the FLSA might also increase the predictive power of this instrument, or even increase the number of subscales that identify rehospitalization risk.

#### Conclusions

Although clinical settings may not always allow for the time or the resources (appropriate equipment, environmental space and availability) to devote to routinely evaluating their clientele, the FLSA's ease and usefulness in arriving at a more informative picture of how and where community tenure could be achieved, make it a useful tool. In fact, many hospital mental health treatment teams emphasize life skills assessment over therapeutic activities and plans, given shorter inpatient stays (personal communication from



Occupational Therapy staff, Service Meeting, Psychiatry Department of Notre-Dame Hospital {CHUM}, October 26, 2000). The results of a complete functional evaluation often determine the length of hospital stay and are used to make decisions concerning the person's future home (supervised or independent apartment, group home, foster family). Interest in the results of life skills assessments has increased, particularly in Quebec, where CLSCs (*Centres Locales des Services Communautaires*) and other community organizations have responsibility for planning interventions that once took place in hospital settings. This fairly new reality due to cutbacks and downsizing (Lesage et al., 2000) has put the onus on these community resources to share more in users' post-discharge care. They are solicited to offer medical and daily living assistance for persons who suffer from major mental disorders and who are limited in their functional capacities (Gelinac, 1998; Test, 1998). The information gleaned through life skills evaluation tools like the FLSA, proves itself to be invaluable for these resources, and is both time saving and cost-effective for their staff.

In many instances, life skills assessments do not evaluate the participants themselves, but are based on staff judgments of participants' capacities, or on self-reports (Hintikka et al., 1999; McAnanama et al., 1999). The FLSA uses several methods to obtain a more complete and precise appraisal and is performance based. It has been shown to be a reliable and valid assessment tool, and is easy to use with a minimum of training. This

instrument is also applicable to both acute and chronic populations. The FLSA can identify weaknesses and strengths in life skills capacities and can thus be the basis of remedial programs to restore functioning in daily life tasks. Effective life skills training programs that aim to assess current problems, such as complying with medication and appointments, securing and maintaining a safe, health-inducing environment, managing finances, learning and adopting self-care routines which ensure both physical and mental well-being, can then be successfully implemented. Once basic life skills functioning has been accurately assessed and treated, prolonged independent community living and self-sufficiency through work skills acquisition become realistic goals.

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## APPENDIX A

The Eight Subscales of the  
Functional Life Skills AssessmentA. Personal Hygiene

1. Bathes or showers at least 3 times a week
2. Brushes teeth at least once a day
3. Shampoos hair at least once a week
4. Uses deodorant daily
5. Shaves at least every 2 days/keeps beard neat
6. Combs hair every day
7. Cleans or cuts nails
8. Frequently changes pads during menstruation
9. Maintains self neat during day
10. Takes care of feet (*added to final version*)

B. Clothes Maintenance

1. Changes clothes at least every 2 days or when needed
2. Changes underwear at least every 2 days or when needed
3. Gets dressed adequately
4. Dresses according to season, temperature, and activity (*removed later*)
5. Takes clothes off to sleep
6. Stores soiled clothes for washing
7. Uses automatic washer and dryer
8. Puts clean clothes away
9. Keeps clothes repaired
10. Keeps shoes repaired

C. Eating and Nutrition

1. Eats and drinks neatly
2. Uses proper utensils and dishes
3. Uses napkin (*removed later*)
4. Shows knowledge of main food groups for balanced diet
5. Shows good nutritional habits - balanced diet, no excess of sweets or salts
6. Limits food intake to appropriate amount

## APPENDIX A

The Eight Subscales of the  
Functional Life Skills Assessment (Cont'd)

D. Milieu Maintenance

1. Makes bed daily
2. Changes linens as needed
3. Keeps room(s) neat
4. Dusts surfaces as needed
5. Vacuums or sweeps floors as needed
6. Washes floors as needed
7. Wipes up spills
8. Washes dishes/pots as needed
9. Cleans toilet/sink/bathtub as needed
10. Prepares simple foods (sandwiches, coffee, tea)
11. Prepares simple meals (eggs, soups)
12. Puts leftovers away
13. Keeps fridge clean
14. Keeps stove and oven clean
15. Knows and uses cleaning products adequately
16. Shops for nutritional foods

E. Money Management

1. Budgets money (plans ahead)
2. Buys the right amount of groceries
3. Buys own clothes
4. Buys personal items as needed
5. Can write a cheque
6. Pays bills by cheque or cash
7. Pays the rent by cheque or cash
8. Has a bank account
9. Purchases necessities before luxury items
10. Counts change

F. Community Skills

1. Uses telephone
2. Shows ability to use directory
3. Gets directions as needed
4. Shows knowledge of emergency numbers

## APPENDIX A

The Eight Subscales of the  
Functional Life Skills Assessment (Cont'd)

5. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations
6. Walks to places in the neighbourhood
7. Uses public transportation
8. Shows familiarity with safety principles
9. Shows ability to address a letter

G. Health

1. Reports physical problems adequately
2. Keeps appointments with health professionals
3. Can care for own minor physical problems appropriately
4. Renews prescription for present medication as needed
5. Cooperates with person giving medication daily or self-administers prescribed medication reliably daily (*divided into two items later*)
6. Consults other health care professionals as needed (*added later*)

H. Leisure

1. Reads books or magazines
2. Shows interest in a hobby
3. Takes walks outside
4. Listens to radio or watches T.V.
5. Goes to watch sports activities
6. Goes to films or shows
7. Plays cards
8. Attends community groups (workshops, arts & crafts)
9. Reads the paper daily
10. Plays sports

## APPENDIX B

Functional Life Skills Assessment  
Instructions For Use

This basic life skills assessment is to be filled out by the occupational therapist from her observations of the individual and from consultation with a day and evening nurse prior to discharge. These items were judged as critical to community tenure and it is therefore important to keep in mind that every person should be able to execute each task.

Most life skills can be assessed prior to discharge, nevertheless, since the hospital environment does not lend itself to an accurate evaluation of certain of these skills, they will be assessed after discharge. An in vivo evaluation shortly after discharge should be done with each person to complete the assessment and to ascertain motivation in using life skills. The rater should consult with the community mental health worker, should the person be placed in a supervised environment. The following sections are to be evaluated once discharge has occurred:

- D. Milieu Maintenance - D.4 - D.16
- E. Money Management - E.2 - E.10
- F. Community Skills - F.3 - F.8
- G. Health - G.2 - G.6
- H. Leisure

The guidelines below will help you decide on more accurate ratings for each person.

The following items are to be rated by consultation or observation:

A. Personal Hygiene

- 1., 3. a visual check is required.
- 5., 7. a visual check is required.
- 9. Maintains self neat during day - the person looks minimally presentable, acceptable in a social context, i.e., will not be too noticed on the street.

B. Clothes Maintenance

- 1., 2. "when needed" - when clothes are soiled or have an odour.

## APPENDIX B

Functional Life Skills Assessment  
Instructions For Use (Cont'd)

3. Gets dressed adequately - the person does not dress in a bizarre or inappropriate manner, ex., wears his/her coat inside, puts on a nightgown to go out.
4. Dresses according to season - the person wears boots and a coat in the winter or light clothing on a hot day.
- 5., 8. visual check is required.
9. Keeps clothes repaired - the person does NOT appear with any large holes, ripped seams, soiled spots on clothing; there is no exposure of private body parts and no attention is attracted due to unrepaired clothing; the rater must also take into account the fashion of the day, ex., jeans ripped at the knee are acceptable due to style.
10. Keeps shoes repaired - the person's shoes do not show any large holes, gross discolouration; are in good enough condition to be worn safely and without attracting attention.

C. Eating and Nutrition

1. Eats and drinks neatly - the person does not get food or liquids on self, others, or on surrounding area every time he/she eats, so that major clean-up is necessary after every meal.
- 2., 3., 5. a visual check is required.
6. Limits food intake to appropriate amount - does not over/ undereat.

D. Milieu Maintenance

1. visual check required.
2. Changes linens as needed - bedding is changed before being soiled or having an odour; check visually.
3. Keeps room(s) neat - the person's room(s) is (are) minimally acceptable in appearance.
4. to 9. cover the general appearance of the person's immediate milieu; a minimal amount of cleanliness is acceptable. This means that the person's health is not endangered by dirt, dust, old food or spills.
12. to 14. old or spoiled food does not appear inside or outside the fridge; spills and grease are not grossly apparent.



## APPENDIX B

Functional Life Skills Assessment  
Instructions For Use (Cont'd)

16. Shops for nutritional foods - check the person's fridge and pantry; the rater may also ask the person to plan a day's/week's menu.

E. Money Management

- 2.,4. a visual check is required.

F. Community Skills

7. Uses public transportation  
8. Shows familiarity with safety principles - takes precautions with smoking materials and with electrical equipment, does not keep explosive foods or articles (oils, hairspray, etc.) near stove or oven, etc.

G. Health

1. Reports physical problems adequately - does not under or over report symptoms.  
2. Keeps appointments with health professionals - sees doctor or other health professionals on a follow-up basis, follows through on appointments set up by them, others or self; comes regularly to medication clinic.  
5. Cooperates with person giving medication - is compliant in taking prescribed medication.  
6. Consults with other health care professionals – sees optometrist, dentist, gynaecologist on regular basis

The following items are to be rated by asking the person:

A. Personal Hygiene

4. Uses deodorant daily  
8. Frequently changes pads during menstruation

## APPENDIX B

Functional Life Skills Assessment  
Instructions For Use (Cont'd)C. Eating and Nutrition

4. Shows knowledge of main food groups for balanced diet - the person knows the four main food groups: meat and fish, milk and dairy products, vegetables and fruit, and grains.

D. Milieu Maintenance

15. Knows which cleansers to use - uses appropriate cleaning agents for various tasks, ex., does not clean the toilet with Windex, etc.

E. Money Management

3. Buys own clothes
6. Pays bills by cheque or cash
7. Pays the rent by cheque or cash
8. Has a bank account

F. Community Skills

3. Gets directions as needed - a destination is given to the person who must report how he/she will arrive there.
4. Shows knowledge of emergency numbers - knows them by heart.
5. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations
6. Walks to places in the neighbourhood

G. Health

3. Can care for own minor physical problems appropriately - the person shows the ability to tend to cuts, scrapes, other symptoms such as headaches, bruises, constipation, etc.
4. Renews prescription for present medication as needed
6. Self-administers prescribed medication reliably daily - the person is autonomous in taking medication on a daily basis.

H. Leisure

H -1 to H -10 is to be rated by asking the person if he/she participates in activities.

## APPENDIX B

Functional Life Skills Assessment  
Instructions For Use (Cont'd)

The following items are to be rated by testing, direct observation and questioning:

D. Milieu Maintenance

- 10. Prepares simple foods (sandwiches, coffee, tea)
- 11. Prepares simple meals (eggs, soups)

E. Money Management

- 1. Budgets money - the person shows some planning and organizational skills for weekly or monthly monies; the rater may ask the person to write down a budget, according to his allowance
- 9. Purchases necessities before luxury items - the person is given a choice of items to buy, e.g., soap, bread, milk, perfume, candy, etc., and asked to choose which of these would be purchased first.
- 10. Counts change - simulate a situation using coins.

F. Community Skills

- F - 1., F - 2., F - 9. - simulation using real objects.
- F - 3. - is asked to get directions by phone on use of public transportation to a designated spot

## APPENDIX B

Functional Life Skills Assessment (version II)

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Marital Status: \_\_\_\_\_  
 Date: \_\_\_\_\_ Diagnosis: \_\_\_\_\_ Sex: \_\_\_\_\_  
 Occupation: \_\_\_\_\_ Education: \_\_\_\_\_ File No. \_\_\_\_\_  
 Name of Evaluator: \_\_\_\_\_

During the seven days preceeding discharge, please score each item:  
 0=does not do; 1= does with reminder or help; 2= does independently, needs  
 no reminder nor help; 3= not applicable; 4= information not available.

Your answers will be based on observing the person and then making a judgment, in consultation with nursing staff or with community mental health workers. Simulations of situations may be used, for example, asking the person to look up a name in the directory, to address a letter, to plan a day's menu, etc.

A rating of 0 means that the person does NOT execute the task, even when prompts or suggestions are given, or needs continuous reminders or guidance during task execution.

A rating of 1 means that the person needs a prompt or suggestion or help to initiate/ execute/ complete the task. This means that a staff member is involved verbally or physically in the task, even if it is minimally.

A rating of 2 means that the person does execute the task, without any prompt or assistance at all.

A rating of 3 means that the task does not apply to this individual, because of gender. Since it is assumed that each person must complete each task for community tenure, a rating of 3 should NOT be used if the person does not need to complete the item because of type of placement. In this case, a rating of 0 should be considered.

A rating of 4 means that there is insufficient information to answer this item, either because there was no time to observe the person or the rater has limited knowledge concerning the item.

## APPENDIX B

Functional Life Skills Assessment (version II) (Cont'd)

You will notice a column on the far right for the quality rating. A rating of YES means that the task is done with minimally acceptable results: the person IS socially acceptable. A rating of NO means that the task is done with results that are definitely socially unacceptable.

The following items are to be rated by consultation:

1. Bathes or showers at least 3 times a week	0 1 2 3 4	Yes No
2. Brushes teeth at least once a day	0 1 2 3 4	Yes No
3. Shampoos hair at least once a week	0 1 2 3 4	Yes No
4. Shaves at least every 2 days / keeps beard neat	0 1 2 3 4	Yes No
5. Combs hair every day	0 1 2 3 4	Yes No
6. Cleans or cuts nails	0 1 2 3 4	Yes No
7. Maintains self neat during day	0 1 2 3 4	Yes No
8. Changes clothes at least every 2 days or when needed	0 1 2 3 4	Yes No
9. Changes underwear at least every 2 days or when needed	0 1 2 3 4	Yes No
10. Gets dressed adequately	0 1 2 3 4	Yes No
11. Dresses according to season, temperature, and activity	0 1 2 3 4	Yes No
12. Takes clothes off to sleep	0 1 2 3 4	Yes No
13. Stores soiled clothes for washing	0 1 2 3 4	Yes No
14. Uses automatic washer and dryer	0 1 2 3 4	Yes No
15. Puts clean clothes away	0 1 2 3 4	Yes No
16. Keeps clothes repaired	0 1 2 3 4	Yes No
17. Keeps shoes repaired	0 1 2 3 4	Yes No
18. Eats and drinks neatly	0 1 2 3 4	Yes No
19. Uses proper utensils and dishes	0 1 2 3 4	Yes No
20. Uses napkin	0 1 2 3 4	Yes No
21. Shows good nutritional habits - balanced diet, no excess of sweets or salts	0 1 2 3 4	Yes No
22. Limits food intake to appropriate amount	0 1 2 3 4	Yes No
23. Reports physical problems in an adequate manner	0 1 2 3 4	Yes No

The following items should be scored by observation and questioning:

24. Shops for nutritional foods	0 1 2 3 4	Yes No
25. Makes bed every day	0 1 2 3 4	Yes No

## APPENDIX B

Functional Life Skills Assessment (version II) (Cont'd)

26.Changes linens as needed	0 1 2 3 4	Yes No
27.Keeps room(s) neat	0 1 2 3 4	Yes No
28.Dusts as needed	0 1 2 3 4	Yes No
29.Vacuums or sweeps floors as needed	0 1 2 3 4	Yes No
30.Washes floors as needed	0 1 2 3 4	Yes No
31.Wipes up spills	0 1 2 3 4	Yes No
32.Washes dishes/pots as needed	0 1 2 3 4	Yes No
33.Cleans toilet, sink, bathtub as needed	0 1 2 3 4	Yes No
34.Puts leftovers away	0 1 2 3 4	Yes No
35.Keeps fridge clean	0 1 2 3 4	Yes No
36.Keeps stove and oven clean	0 1 2 3 4	Yes No
37.Buys the right amount of groceries	0 1 2 3 4	Yes No
38.Buys personal items as needed	0 1 2 3 4	Yes No
39.Buys necessities before luxury items	0 1 2 3 4	Yes No
40.Cooperates with person giving medication daily	0 1 2 3 4	Yes No
41.Shows familiarity with safety principles in daily life	0 1 2 3 4	Yes No

The following items are to be rated by asking the person or by testing:

42.Uses deodorant daily	0 1 2 3 4	Yes No
43.Frequently changes pads during menstruation	0 1 2 3 4	Yes No
44.Shows knowledge of main food groups for balanced diet	0 1 2 3 4	Yes No
45.Pre pares simple snacks (sandwiches, coffee, tea)	0 1 2 3 4	Yes No
46.Pre pares simple meals (eggs, soups)	0 1 2 3 4	Yes No
47.Knows and uses cleaning products adequately	0 1 2 3 4	Yes No
48.Buys own clothes	0 1 2 3 4	Yes No
49.Pays the bills by cheque or cash	0 1 2 3 4	Yes No
50.Pays the rent by cheque or cash	0 1 2 3 4	Yes No
51.Has a bank account	0 1 2 3 4	Yes No
52.Shows knowledge of emergency numbers	0 1 2 3 4	Yes No
53.Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations	0 1 2 3 4	Yes No
54.Walks to places in the neighbourhood without getting lost	0 1 2 3 4	Yes No
55.Uses public transportation	0 1 2 3 4	Yes No
56.Keeps appointments with health professionals	0 1 2 3 4	Yes No
57.Can take care of minor physical problems	0 1 2 3 4	Yes No

## APPENDIX B

Functional Life Skills Assessment (version II) (Cont'd)

58.Consults health care professionals as needed	0 1 2 3 4	Yes No
59.Renews medication prescription as needed	0 1 2 3 4	Yes No
60.Self-administers prescribed medication reliably daily	0 1 2 3 4	Yes No
61.Reads books or magazines	0 1 2 3 4	Yes No
62.Shows interest in a hobby	0 1 2 3 4	Yes No
63.Takes walks outside	0 1 2 3 4	Yes No
64.Listens to the radio or watches T.V.	0 1 2 3 4	Yes No
65.Goes to watch sports activities	0 1 2 3 4	Yes No
66.Goes to films or shows	0 1 2 3 4	Yes No
67.Plays cards	0 1 2 3 4	Yes No
68.Attends community groups	0 1 2 3 4	Yes No
69.Reads the paper daily	0 1 2 3 4	Yes No
70.Plays sports	0 1 2 3 4	Yes No

The following items should be scored by testing:

71.Plans budget	0 1 2 3 4	Yes No
72. Can write a cheque	0 1 2 3 4	Yes No
73.Counts change	0 1 2 3 4	Yes No
74.Uses the phone	0 1 2 3 4	Yes No
75.Shows ability to use directory	0 1 2 3 4	Yes No
76.Asks for directions as needed	0 1 2 3 4	Yes No
77. Shows ability to address an envelope	0 1 2 3 4	Yes No

## APPENDIX C

Les huites échelles de l'évaluation des habiletés fonctionnelles dans les activités de la vie couranteA. Hygiène personnelle:

1. Prend un bain ou une douche au moins 3 fois par semaine
2. Se brosse les dents au moins 1 fois/jour
3. Se lave les cheveux au moins 1 fois/ semaine
4. Utilise un désodorisant quotidiennement
5. Se rase au moins tous les 2 jours / garde barbe soignée
6. Peigne ou place ses cheveux tous les jours
7. Nettoie ou coupe ses ongles
8. Change fréquemment ses serviettes sanitaires durant les menstruations
9. Reste propre pendant la journée
10. Prend soin de ses pieds (*a été ajouté plus tard*)

B. Entretien des vêtements:

1. Change ses vêtements au moins tous les 2 jours ou au besoin
2. Change ses sous-vêtements au moins tous les 2 jours ou au besoin
3. S'habille d'une façon appropriée
4. S'habille en fonction de la saison, température et activités (*a été enlevé plus tard*)
5. Enlève ses vêtements pour dormir
6. Ramasse ses vêtements souillés pour le lavage
7. Utilise laveuse et sècheuse automatiques ou fait son lavage à la main
8. Range ses vêtements propres
9. Garde ses vêtements en bon état
10. Garde ses souliers en bon état

C. Alimentation et nutrition:

1. Mange et boit proprement
2. Utilise vaisselle et ustensiles appropriés
3. Utilise des serviettes de table (*a été enlevé plus tard*)
4. Démonstre une connaissance minimale des principaux groupes alimentaires pour une diète équilibrée
5. Montre de bonnes habitudes alimentaires - diète équilibrée, pas d'excès de sucre et de sel
6. Se nourrit en quantités appropriées



## APPENDIX C

Les huites échelles de l'évaluation des habiletés fonctionnelles dans les activités de la vie couranteD. Entretien du milieu:

1. Fait son lit tous les jours
2. Change ses draps au besoin
3. Garde ses pièces propres
4. Epoussette au besoin
5. Passe l'aspirateur et balaie les planchers au besoin
6. Lave les planchers au besoin
7. Essuie les dégâts
8. Lave la vaisselle au besoin
9. Nettoie toilette / lavabo / bain au besoin
10. Prépare des mets simples (sandwiches, café, thé)
11. Prépare des repas simples (oeufs, soupes)
12. Enlève les restants de table
13. Garde le réfrigérateur propre
14. Garde le poêle et le four propres
15. Connait et utilise les produits nettoyants adéquatement
16. Achète des aliments nutritifs

E. Gestion du budget:

1. Planifie son budget
2. Fait son épicerie selon les quantités requises
3. Achète ses propres vêtements
4. Achète ses effets personnels selon ses besoins
5. Peut écrire un chèque
6. Paie ses comptes par chèque ou en argent comptant
7. Paie son loyer par chèque ou en argent comptant
8. Possède un compte en banque
9. Achète les articles indispensables avant les articles de luxe
10. Compte sa monnaie

F. Habiletés dans les activités de la vie communautaire:

1. Utilise le téléphone
2. Démontre sa capacité d'utiliser le bottin téléphonique
3. Demande des indications pour un itinéraire au besoin

## APPENDIX C

Les huites échelles de l'évaluation des habiletés fonctionnelles dans les activités de la vie courante

4. Montre sa connaissance des numéros de téléphone d'urgence
5. Montre sa connaissance des emplacements du Bureau d'aide sociale, du Bureau d'aide juridique, du Poste de police, du Centre de main d'oeuvre, du Bureau de postes, du C.L.S.C.
6. Se rend aux endroits voulus dans le voisinage
7. Utilise les transports publics
8. Se montre familier avec les principes de sécurité dans la vie quotidienne
9. Démontre sa capacité d'adresser une lettre

G. Santé:

1. Rapporte ses problèmes de façon adéquate
2. Maintient ses rendez-vous avec les professionnels de la santé
3. Peut prendre soin adéquatement de ses problèmes physiques mineurs
4. Renouvelle au besoin sa prescription de médicaments
5. Coopère avec la personne qui donne les médicaments ou s'administre fidèlement la médication prescrite à tous les jours (*séparé en deux items plus tard*)
6. Consulte les professionnels de la santé au besoin (*a été ajouté plus tard*)

H. Loisirs:

1. Lit des livres ou des magazines
2. Montre de l'intérêt face à un loisir
3. Fait des promenades à l'extérieur
4. Ecoute la radio ou regarde la télévision
5. Va voir des activités sportives
6. Va voir des films ou des jeux
7. Joue aux cartes
8. Assiste à des groupes communautaires (ateliers, artisanat)
9. Lit le journal tous les jours
10. Participe à des sports

## APPENDIX D

### Instructions

Cette évaluation des habiletés de vie de base doit être complétée par l'ergothérapeute à partir de ses observations de l'individu et à partir de consultations auprès d'un(e) infirmier(e), et ce avant son congé. Ces items ont été jugés comme cruciaux au maintien dans la communauté et par conséquent, il est important de se souvenir que chaque personne doit être capable d'exécuter chaque tâche.

La majorité des habiletés de vie peuvent être évaluées avant le congé, néanmoins puisque le milieu hospitalier ne se prête pas à une évaluation précise de certaines de ces habiletés, elles seront évaluées après le congé. Une évaluation in vivo, peu de temps après le congé, devrait être effectuée avec chaque sujet pour compléter l'évaluation et pour vérifier la motivation en rapport avec l'utilisation des habiletés dans les activités de la vie courante. L'évaluateur (trice) devrait consulter l'intervenant en santé communautaire si la personne est placée dans un milieu supervisé. Les sections suivantes doivent être évaluées une fois que le congé définitif est effectif:

- D. Entretien du milieu - D. 4 - D. 16
- E. Gestion du budget - E. 2 - E. 10
- F. Habiletés de vie communautaire - F. 3 - F. 8
- G. Santé - G. 2 - G. 6
- H. Loisirs

Les lignes directrices ci-dessous vous aideront à décider de cotations plus précises pour chaque personne.

Les items suivants doivent être cotés par consultation ou par observation:

#### A. Hygiène personnelle:

- 1.- 3.- une vérification visuelle est requise.
- 5.- 7.- une vérification visuelle est requise.
9. Reste propre pendant la journée - la personne semble être présentable minimalement, acceptable dans un contexte social, c.à d. ne sera pas trop remarquée sur la rue.

## APPENDIX D

### Instructions

#### B. Entretien des vêtements:

- 1.- 2.- " au besoin" - lorsque les vêtements sont souillés ou dégagent une odeur
3. S'habille d'une façon appropriée - la personne ne s'habille pas d'une façon inappropriée ou bizarre, c. à d. qu'elle porte son manteau à l'endroit, ne porte pas une chemise de nuit pour sortir.
4. S'habille en fonction de la saison - la personne porte des bottes et un manteau durant l'hiver et des vêtements légers durant les journées chaudes.
- 5.- 8.- une vérification visuelle est requise.
9. Garde ses vêtements en bon état - la personne ne se présente pas avec des vêtements troués, des coutures déchirées, des taches sur les vêtements; il n'y a pas de parties intimes du corps exposées et l'attention n'est pas attirée par des vêtements détériorés; l'évaluateur (trice) doit aussi tenir compte de la mode du jour, c.à d. les jeans déchirés aux genoux sont acceptables en raison du style.
10. Garde ses souliers en bon état - les souliers de la personne ne sont pas troués, ni décolorés de façon marquée; ils sont en assez bonne condition pour être portés de façon sécuritaire et sans attirer l'attention.

#### C. Alimentation et Nutrition:

1. Mange et boit proprement - la personne n'échappe pas de nourriture ou de liquides sur elle-même, sur les autres ou aux alentours à chaque fois qu'elle mange, au point qu'un nettoyage majeur est nécessaire après chaque repas.
- 2.,3.,5.- une vérification visuelle est requise.
6. Se nourrit en quantités appropriées - ne se suralimente / sous-alimente pas.

#### D. Entretien du milieu:

1. - une vérification visuelle est requise.
2. Change ses draps au besoin - les draps sont changés avant d'être souillés ou de dégager une odeur; vérifier en regardant.
3. Garde ses pièces propres - la chambre ou pièces de la personne sont minimalement acceptables en apparence.

## APPENDIX D

### Instructions

- 4. à 9. Comprend l'apparence générale du milieu immédiat de la personne; un degré minimal de propreté est acceptable. Cela signifie que la santé de la personne n'est pas menacée par la saleté, la poussière, des aliments gâtés ou des avaries.
- 12. à 14. Des aliments gâtés ou moisissus ne sont pas apparents à l'intérieur ou à l'extérieur du réfrigérateur; des dégâts et de la graisse ne sont pas apparents de façon évidente.
- 16. Achète des aliments nutritifs - vérifier le réfrigérateur et le garde-manger de la personne; l'évaluateur (trice) peut aussi demander à la personne de planifier un menu pour 1 journée ou 1 semaine.

### E. Gestion du budget:

- 2., 4. une vérification visuelle est requise.

### F. Habiletés dans les activités de la vie communautaire:

#### 7. Utilisation des transports publics

- 8. Se montre familier avec les principes de sécurité - prend des précautions lorsqu'il (elle) fume et lors de l'utilisation des appareils électriques, ne garde pas d'articles explosifs (huiles, aérosols, etc.) près du poêle et du four.

### G. Santé:

- 1. Rapporte ses problèmes physiques de façon adéquate - ne minimise ou n'exagère pas ses symptômes en les rapportant.
- 2. Maintient ses rendez-vous avec les professionnels de la santé - voit le médecin et les autres professionnels de la santé sur une base de follow-up, respecte les rendez-vous donnés par ceux-ci, d'autres professionnels ou lui-même; vient régulièrement à la clinique de médication.
- 5. Coopère avec la personne qui donne la médication - est compliant en prenant la médication prescrite.
- 6. Consulte les professionnels de la santé au besoin – voit l'optométriste, le dentiste, le gynécologue régulièrement.

## APPENDIX D

## Instructions

Les items suivants doivent être cotés en interrogeant directement la personne:

A. Hygiène personnelle:

4. Utilise du désodorisant tous les jours

8. Change fréquemment ses serviettes sanitaires durant les menstruations

C. Alimentation et nutrition:

4. Démontre une connaissance minimale des principaux \_\_\_\_\_ groupes alimentaires pour une diète équilibrée - La personne connaît les quatre principaux groupes alimentaires: viandes et poissons, lait et produits laitiers, légumes et fruits et céréales.

D. Entretien du milieu:

15. Connait et utilise les produits nettoyants adéquatement  
utilise les agents nettoyants appropriés pour diverses tâches, par ex., ne nettoie pas la toilette avec du Windex, etc.

E. Gestion du budget:

3. Achète ses propres vêtements  
6. Paie ses comptes par chèque ou en argent comptant  
7. Paie son loyer par chèque ou en argent comptant  
8. Possède un compte en banque

F. Habiletés dans les activités de la vie communautaire:

3. Demande des indications pour un itinéraire au besoin - une destination est donnée à la personne qui doit décrire comment elle y arrivera ou elle téléphone la compagnie de transports en commun pour avoir des directives concernant le chemin à prendre  
4. Montre sa connaissance des numéros de téléphone d'urgence - les connaît par coeur

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5. Montre sa connaissance des emplacements du Bureau d'aide sociale, du Bureau d'aide juridique, du Poste de police, du Centre de main d'oeuvre, du Bureau de postes et des C.L.S.C.
6. Se rend aux endroits voulus dans le voisinage

G. Santé:

3. Peut prendre soin adéquatement de ses problèmes physiques mineurs - la personne montre son habileté à soigner les coupures et les égratignures et d'autres symptômes tels que les maux de tête, les contusions, la constipation, etc.
5. Renouvelle au besoin sa prescription de médicaments
6. Coopère avec la personne ... ou s'administre fidèlement la médication prescrite à tous les jours

H. Loisirs:

H.1 à H.10 - doivent être cotés en interrogeant la personne dans le cas où il / elle participe à ces activités

Les items suivants doivent être cotés par des mises en situation ou par observation et questionnement:

D. Entretien du milieu:

10. Prépare des mets simples (sandwiches, café, thé)
11. Prépare des repas simples (oeufs, soupes)

E. Gestion du budget:

1. Planifie son budget - la personne montre quelques habiletés d'organisation et de planification pour des sommes d'argent hebdomadaires ou mensuelles; l'évaluateur (trice) peut demander à la personne de faire son budget par écrit en fonction de ses revenus.
9. Achète les articles indispensables avant les articles deluxe – on peut donner à la personne le choix d'effets à acheter, par ex., du savon,

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du pain, du lait, du parfum, des bonbons, etc., et on lui demande de choisir lequel de ces items elle achèterait en premier.

10. Compte la monnaie - simuler une situation où on utilise de la monnaie.

F. Habiletés dans les activités de la vie communautaire:

F -1, F - 2, F - 9 – simulation avec des objets réels.



## APPENDIX D

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version III)

Nom: \_\_\_\_\_ Age: \_\_\_\_\_ No. dossier: \_\_\_\_\_  
 Date: \_\_\_\_\_ Diagnostic: \_\_\_\_\_ Sexe: \_\_\_\_\_  
 Occupation: \_\_\_\_\_ Scolarité: \_\_\_\_\_ Statut: \_\_\_\_\_  
 Nom de l'évaluateur(trice): \_\_\_\_\_

Au cours des sept jours précédant le congé, veuillez cocher s'il vous plaît chacun des items:

- 0 = ne le fait pas;
- 1 = le fait avec rappel ou aide;
- 2 = le fait de façon autonome, n'a pas besoin de rappel ou d'aide;
- 3 = non applicable;
- 4 = information non disponible.

Vos réponses seront basées sur l'observation de la personne puis sur vos jugements appuyés de consultations auprès du personnel infirmier ou des intervenants en santé communautaire. Des simulations de situations de vie peuvent être utilisées, par exemple, en demandant à la personne de chercher un nom dans le bottin téléphonique, d'écrire une adresse sur une enveloppe, de planifier son menu du jour, etc.

Une cote de 0 signifie que le sujet n'exécute pas la tâche même si des réponses ou des suggestions lui sont fournies, si les consignes lui sont rappelées ou s'il a besoin d'être guidé de façon continue pendant l'exécution de la tâche.

Une cote de 1 signifie que le sujet a besoin d'une réponse, d'une suggestion ou d'aide pour initier/ exécuter/ compléter la tâche. Cela veut dire qu'un membre du personnel est impliqué verbalement ou physiquement dans la tâche, même si ce n'est que minimalement.

Une cote de 2 signifie que le sujet exécute la tâche, sans aucune réponse ou assistance.

Une cote de 3 signifie que la tâche ne s'applique pas à cet individu, en raison du sexe. Puisqu'il est présumé que chaque personne doit compléter chaque tâche pour être fonctionnel dans la communauté, une cote de 3 ne devrait pas être utilisée dans le cas où la personne n'a pas besoin de compléter

## APPENDIX D

Evaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version III)

l'item en raison d'un placement prévu pour elle. Dans ce cas, une cote de 0 devrait être envisagée.

Une cote de 4 signifie que l'information est insuffisante pour répondre à cet item, soit parce qu'il n'y a pas assez de temps pour observer la personne ou soit que l'évaluateur (trice) a une connaissance limitée de l'item concerné.

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Evaluation des habiletés fonctionnelles dans les activités de la vie courante  
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Vous remarquerez une colonne à l'extrême droite servant à la cotation qualitative. La cote OUI signifie que la tâche est exécutée avec des résultats minimalement acceptables: la personne est acceptable socialement. La cote NON signifie que la tâche est exécutée avec des résultats définitivement non acceptables socialement.

Les items suivants doivent être cotés par consultation:

1. Prend un bain ou une douche au moins 3 fois par semaine	0 1 2 3 4	Oui Non
2. Se brosse les dents au moins 1 fois/jour	0 1 2 3 4	Oui Non
3. Se lave les cheveux au moins 1 fois/ semaine	0 1 2 3 4	Oui Non
4. Se rase au moins tous les 2 jours / garde barbe soignée	0 1 2 3 4	Oui Non
5. Peigne ou place ses cheveux tous les jour	0 1 2 3 4	Oui Non
6. Nettoie ou coupe ses ongles	0 1 2 3 4	Oui Non
7. Reste propre pendant la journée	0 1 2 3 4	Oui Non
8. Change ses vêtements au moins tous les 2 jours ou au besoin	0 1 2 3 4	Oui Non
9. Change ses sous-vêtements au moins tous les 2 jours ou au besoin	0 1 2 3 4	Oui Non
10. S'habille d'une façon appropriée	0 1 2 3 4	Oui Non
11. S'habille en fonction de la saison, température et activités	0 1 2 3 4	Oui Non
12. Enlève ses vêtements pour dormir	0 1 2 3 4	Oui Non
13. Ramasse ses vêtements souillés pour le lavage	0 1 2 3 4	Oui Non
14. Utilise laveuse et sècheuse automatiques ou fait son lavage à la main	0 1 2 3 4	Oui Non
15. Range ses vêtements propres	0 1 2 3 4	Oui Non
16. Garde ses vêtements en bon état	0 1 2 3 4	Oui Non
17. Garde ses souliers en bon état	0 1 2 3 4	Oui Non
18. Mange et boit proprement	0 1 2 3 4	Oui Non
19. Utilise vaisselle et ustensiles appropriés	0 1 2 3 4	Oui Non
20. Utilise des serviettes de table	0 1 2 3 4	Oui Non

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Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version III)

- |  |           |         |
|--|-----------|---------|
| 21. Montre de bonnes habitudes alimentaires –<br>diète équilibrée, pas d'excès de sucre<br>et de sel | 0 1 2 3 4 | Oui Non |
| 22. Se nourrit en quantités appropriées  | 0 1 2 3 4 | Oui Non |
| 23. Rapporte ses problèmes de façon adéquate   | 0 1 2 3 4 | Oui Non |

Les items suivants doivent être cotés par observation et questionnement:

- |  |           |         |
|--|-----------|---------|
| 24. Achète des aliments nutritifs  | 0 1 2 3 4 | Oui Non |
| 25. Fait son lit tous les jours  | 0 1 2 3 4 | Oui Non |
| 26. Change ses draps au besoin   | 0 1 2 3 4 | Oui Non |
| 27. Garde ses pièces propres   | 0 1 2 3 4 | Oui Non |
| 28. Epoussette au besoin   | 0 1 2 3 4 | Oui Non |
| 29. Passe l'aspirateur ou balaie les planchers<br>au besoin                      | 0 1 2 3 4 | Oui Non |
| 30. Lave les planchers au besoin   | 0 1 2 3 4 | Oui Non |
| 31. Essuie les dégâts  | 0 1 2 3 4 | Oui Non |
| 32. Lave la vaisselle au besoin  | 0 1 2 3 4 | Oui Non |
| 33. Nettoie toilette / lavabo / bain au besoin                                   | 0 1 2 3 4 | Oui Non |
| 34. Enlève les restants de table   | 0 1 2 3 4 | Oui Non |
| 35. Garde le réfrigérateur propre  | 0 1 2 3 4 | Oui Non |
| 36. Garde le poêle et le four propres  | 0 1 2 3 4 | Oui Non |
| 37. Fait son épicerie selon les quantités requises                               | 0 1 2 3 4 | Oui Non |
| 38. Achète ses effets personnels selon ses besoins                               | 0 1 2 3 4 | Oui Non |
| 39. Achète les articles indispensables avant<br>les articles de luxe             | 0 1 2 3 4 | Oui Non |
| 40. Coopère avec la personne qui donne les<br>médicaments                        | 0 1 2 3 4 | Oui Non |
| 41. Se montre familier avec les principes de sécurité<br>dans la vie quotidienne | 0 1 2 3 4 | Oui Non |

Les items suivants doivent être cotés en interrogeant la personne ou par une mise en situation:

- |  |           |         |
|--|-----------|---------|
| 42. Utilise un désodorisant quotidiennement                                  | 0 1 2 3 4 | Oui Non |
| 43. Change fréquemment ses serviettes sanitaires<br>durant les menstruations | 0 1 2 3 4 | Oui Non |

## APPENDIX D

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version III)

44. Démontre une connaissance minimale des principaux groupes alimentaires pour une diète équilibrée	0 1 2 3 4	Oui Non
45. Prépare des mets simples (sandwiches, café, thé)	0 1 2 3 4	Oui Non
46. Prépare des repas simples (oeufs, soupes	0 1 2 3 4	Oui Non
47. Connait et utilise les produits nettoyants adéquatement	0 1 2 3 4	Oui Non
48. Achète ses propres vêtements	0 1 2 3 4	Oui Non
49. Paie ses comptes par chèque ou en argent comptant	0 1 2 3 4	Oui Non
50. Paie son loyer par chèque ou en argent comptant	0 1 2 3 4	Oui Non
51. Possède un compte en banque	0 1 2 3 4	Oui Non
52. Montre sa connaissance des numéros de téléphone d'urgence	0 1 2 3 4	Oui Non
53. Montre sa connaissance des emplacements du Bureau d'Aide Sociale, du Bureau d'Aide Juridique, du Poste de Police du Centre de Main d'oeuvre, du Bureau de Postes, du C.L.S.C	0 1 2 3 4	Oui Non
54. Se rend aux endroits voulus dans le voisinage	0 1 2 3 4	Oui Non
55. Utilise les transports publics	0 1 2 3 4	Oui Non
56. Maintient ses rendez-vous avec les professionnels de la santé	0 1 2 3 4	Oui Non
57. Peut prendre soin adéquatement de ses problèmes physiques mineurs	0 1 2 3 4	Oui Non
58. Consulte les professionnels de la santé au besoin	0 1 2 3 4	Oui Non
59. Renouvelle au besoin sa prescription de médicaments	0 1 2 3 4	Oui Non
60. S'administre fidèlement la médication prescrite à tous les jours	0 1 2 3 4	Oui Non
61. Lit des livres ou des magazines	0 1 2 3 4	Oui Non
62. Montre de l'intérêt face à un loisir	0 1 2 3 4	Oui Non
63. Fait des promenades à l'extérieur	0 1 2 3 4	Oui Non

## APPENDIX D

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version III)

64. Ecoute la radio ou regarde la télévision	0 1 2 3 4	Oui Non
65. Va voir des activités sportives	0 1 2 3 4	Oui Non
66. Va voir des films ou des jeux	0 1 2 3 4	Oui Non
67. Joue aux cartes	0 1 2 3 4	Oui Non
68. Assiste à des groupes communautaires (ateliers, artisanat)	0 1 2 3 4	Oui Non
69. Lit le journal tous les jours	0 1 2 3 4	Oui Non
70. Participe à des sports	0 1 2 3 4	Oui Non

Les items suivants doivent être cotés par des mises en situation:

71. Planifie son budget	0 1 2 3 4	Oui Non
72. Peut écrire un chèque	0 1 2 3 4	Oui Non
73. Compte sa monnaie	0 1 2 3 4	Oui Non
74. Utilise le téléphone	0 1 2 3 4	Oui Non
75. Démontre sa capacité à utiliser le bottin téléphonique	0 1 2 3 4	Oui Non
76. Demande des indications pour un itinéraire au besoin	0 1 2 3 4	Oui Non
77. Démontre sa capacité d'adresser une lettre	0 1 2 3 4	Oui Non

## APPENDIX E

Formule de Consentement

Dans un souci de fournir des services améliorés aux patients, Sara Liebman effectuera une série d'évaluations fonctionnelles des habiletés de vie auprès d'individus hospitalisés. Ces évaluations nous aideront à comprendre davantage les difficultés de la vie quotidienne que toute personne peut avoir et qui pourraient l'empêcher de se maintenir à l'extérieur de l'hôpital. La présente formule de consentement nous permettra d'obtenir des informations importantes concernant les habiletés dans les activités de la vie courante.

Moi, le sous-signé, permets \_\_\_\_\_ d'évaluer mes  
(nom de l'institution)  
habiletés de base dans les activités de la vie courante, avant que je quitte l'hôpital ainsi que deux semaines après mon congé. Je comprends que l'évaluation inclut une ou plusieurs entrevues comprenant une série de questions. Je comprends que ces informations seront strictement confidentielles.

Je comprends aussi que je peux cesser cette évaluation à n'importe quel moment et me retirer de ce projet. Pour les fins de cette étude, je permets l'accession à mon dossier médical complet.

Nom \_\_\_\_\_ Témoin \_\_\_\_\_

Date \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX F

Functional Life Skills Assessment (final version)

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Marital Status: \_\_\_\_\_  
 Date: \_\_\_\_\_ Diagnosis: \_\_\_\_\_ Sex: \_\_\_\_\_  
 Occupation: \_\_\_\_\_ Education: \_\_\_\_\_ File No. \_\_\_\_\_  
 Name of Evaluator: \_\_\_\_\_

During the seven days preceeding discharge, please score each item :  
 0=does not do; 1= does with reminder or help; 2= does independently, needs  
 no reminder nor help; 3= not applicable; 4= information not available.

Your answers will be based on observing the person and then making a judgment, in consultation with nursing staff or with community mental health workers. Simulations of situations may be used, for example, asking the person to look up a name in the directory, to address a letter, to plan a day's menu, etc.

A rating of 0 means that the person does NOT execute the task, when prompts or suggestions are given, or needs continuous reminders or guidance during task execution.

A rating of 1 means that the person needs a prompt or suggestion or help to initiate/ execute/ complete the task. This means that a staff member is involved verbally or physically in the task, even if it is minimally.

A rating of 2 means that the person does execute the task, without any prompt or assistance at all.

A rating of 3 means that the task does not apply to this individual, because of gender. Since it is assumed that each person must complete each task for community tenure, a rating of 3 should NOT be used if the person does not need to complete the item because of type of placement. In this case, a rating of 0 should be considered.

A rating of 4 means that there is insufficient information to answer this item, either because there was no time to observe the person or the rater has limited knowledge concerning the item.



## APPENDIX F

Functional Life Skills Assessment (final version) (Cont'd)

You will notice a column on the far right for the quality rating. A rating of YES means that the task is done with minimally acceptable results: the person IS socially acceptable. A rating of NO means that the task is done with results that are definitely socially unacceptable.

The following items are to be rated by consultation:

1. Bathes or showers at least 3 times a week	0 1 2 3 4	Yes No
2. Brushes teeth at least once a day	0 1 2 3 4	Yes No
3. Shampoos hair at least once a week	0 1 2 3 4	Yes No
4. Shaves at least every 2 days/ keeps beard neat	0 1 2 3 4	Yes No
5. Combs hair every day	0 1 2 3 4	Yes No
6. Cleans or cuts nails	0 1 2 3 4	Yes No
7. Maintains self neat during day	0 1 2 3 4	Yes No
8. Changes clothes at least every 2 days or when needed	0 1 2 3 4	Yes No
9. Changes underwear at least every 2 days or when needed	0 1 2 3 4	Yes No
10. Gets dressed adequately	0 1 2 3 4	Yes No
11. Takes care of feet	0 1 2 3 4	Yes No
12. Takes clothes off to sleep	0 1 2 3 4	Yes No
13. Stores soiled clothes for washing	0 1 2 3 4	Yes No
14. Uses automatic washer and dryer	0 1 2 3 4	Yes No
15. Puts clean clothes away	0 1 2 3 4	Yes No
16. Keeps clothes repaired	0 1 2 3 4	Yes No
17. Keeps shoes repaired	0 1 2 3 4	Yes No
18. Eats and drinks neatly	0 1 2 3 4	Yes No
19. Uses proper utensils and dishes	0 1 2 3 4	Yes No
*20.*		
21. Shows good nutritional habits - balanced diet, no excess of sweets or salts	0 1 2 3 4	Yes No
22. Limits food intake to appropriate amount	0 1 2 3 4	Yes No
23. Reports physical problems in an adequate manner	0 1 2 3 4	Yes No

## APPENDIX F

Functional Life Skills Assessment (final version) (Cont'd)

The following items should be scored by observation and questioning:

24.Buys nutritional food	0 1 2 3 4	Yes No
25.Makes bed every day	0 1 2 3 4	Yes No
26.Changes linens as needed	0 1 2 3 4	Yes No
27.Keeps room(s) neat	0 1 2 3 4	Yes No
28.Dusts as needed	0 1 2 3 4	Yes No
29.Vacuums or sweeps floors as needed	0 1 2 3 4	Yes No
30.Washes floors as needed	0 1 2 3 4	Yes No
31.Wipes up spills	0 1 2 3 4	Yes No
32.Washes dishes as needed	0 1 2 3 4	Yes No
33.Cleans toilet, sink, bathtub as needed	0 1 2 3 4	Yes No
34.Puts leftovers away	0 1 2 3 4	Yes No
35.Keeps fridge clean	0 1 2 3 4	Yes No
36.Keeps stove and oven clean	0 1 2 3 4	Yes No
37.Buys right amount of groceries	0 1 2 3 4	Yes No
38.Buys personal products as needed	0 1 2 3 4	Yes No
39.Buys necessities before luxury items	0 1 2 3 4	Yes No
40.Cooperates with person giving medication daily	0 1 2 3 4	Yes No
41.Shows familiarity with safety principles in daily life	0 1 2 3 4	Yes No

The following items are to be rated by asking the person directly or by testing:

42.Uses deodorant daily	0 1 2 3 4	Yes No
43.Frequently changes pads during menstruation	0 1 2 3 4	Yes No
44.Shows knowledge of main food groups for balanced diet	0 1 2 3 4	Yes No
45.Prepare simple snacks (sandwiches, coffee, tea)	0 1 2 3 4	Yes No
46.Prepare simple meals (eggs, soups)	0 1 2 3 4	Yes No
47.Knows and uses cleaning products adequately	0 1 2 3 4	Yes No
48.Buys own clothes	0 1 2 3 4	Yes No
49.Pays the bills by cheque or cash	0 1 2 3 4	Yes No
50.Pays the rent by cheque or cash	0 1 2 3 4	Yes No
51.Has a bank account	0 1 2 3 4	Yes No
52.Shows knowledge of emergency numbers	0 1 2 3 4	Yes No

## APPENDIX F

Functional Life Skills Assessment (final version) (Cont'd)

53. Shows knowledge of local welfare office, legal aid, police station, manpower, post office, CLSC locations	0 1 2 3 4	Yes No
54. Walks to places in the neighbourhood without getting lost	0 1 2 3 4	Yes No
55. Uses public transportation	0 1 2 3 4	Yes No
56. Keeps appointments with health professionals	0 1 2 3 4	Yes No
57. Can take care of minor physical problems	0 1 2 3 4	Yes No
58. Consults health professionals as needed	0 1 2 3 4	Yes No
59. Renews medication as needed	0 1 2 3 4	Yes No
60. Self administers prescribed medication reliably daily	0 1 2 3 4	Yes No
61. Reads books or magazines	0 1 2 3 4	Yes No
62. Shows interest in a hobby	0 1 2 3 4	Yes No
63. Takes walks outside	0 1 2 3 4	Yes No
64. Listens to the radio or watches T.V.	0 1 2 3 4	Yes No
65. Goes to watch sports activities	0 1 2 3 4	Yes No
66. Goes to see movies or shows	0 1 2 3 4	Yes No
67. Plays cards	0 1 2 3 4	Yes No
68. Attends community groups	0 1 2 3 4	Yes No
69. Reads the paper daily	0 1 2 3 4	Yes No
70. Plays sports	0 1 2 3 4	Yes No

The following items should be scored by testing:

71. Plans budget	0 1 2 3 4	Yes No
72. Can write a cheque	0 1 2 3 4	Yes No
73. Counts change	0 1 2 3 4	Yes No
74. Uses the phone	0 1 2 3 4	Yes No
75. Shows ability to use directory	0 1 2 3 4	Yes No
76. Asks for directions as needed	0 1 2 3 4	Yes No
77. Shows ability to address an envelope	0 1 2 3 4	Yes No

\*N.B. Item 20 was removed from the evaluation

## APPENDIX F

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version finale)

Nom: \_\_\_\_\_ Age: \_\_\_\_\_ No. dossier: \_\_\_\_\_  
 Date: \_\_\_\_\_ Diagnostic: \_\_\_\_\_ Sexe: \_\_\_\_\_  
 Occupation: \_\_\_\_\_ Scolarité: \_\_\_\_\_ Statut: \_\_\_\_\_  
 Nom de l'évaluateur(trice): \_\_\_\_\_

Au cours des sept jours précédant le congé, veuillez cocher s'il vous plaît chacun des items:

- 0 = ne le fait pas;
- 1 = le fait avec rappel ou aide;
- 2 = le fait de façon autonome, n'a pas besoin de rappel ou d'aide;
- 3 = non applicable;
- 4 = information non disponible.

Vos réponses seront basées sur l'observation de la personne puis sur vos jugements appuyés de consultations auprès du personnel infirmier ou des intervenants en santé communautaire. Des simulations de situations de vie peuvent être utilisées, par exemple, en demandant à la personne de chercher un nom dans le bottin téléphonique, d'écrire une adresse sur une enveloppe, de planifier son menu du jour.

Une cote de 0 signifie que le sujet n'exécute pas la tâche même si des réponses ou des suggestions lui sont fournies, si les consignes lui sont rappelées ou s'il a besoin d'être guidé de façon continue pendant l'exécution de la tâche.

Une cote de 1 signifie que le sujet a besoin d'une réponse, d'une suggestion ou d'aide pour initier/ exécuter/ compléter la tâche. Cela veut dire qu'un membre du personnel est impliqué verbalement ou physiquement dans la tâche, même si ce n'est que minimalement.

Une cote de 2 signifie que le sujet exécute la tâche, sans aucune réponse ou assistance.

Une cote de 3 signifie que la tâche ne s'applique pas à cet individu, en raison du sexe. Puisqu'il est présumé que chaque personne doit compléter chaque tâche pour être fonctionnel dans la communauté, une cote de 3 ne devrait pas être utilisée dans le cas où la personne n'a pas besoin de compléter l'item en raison d'un placement prévu pour elle. Dans ce cas, une cote de 0 devrait être envisagée.

Une cote de 4 signifie que l'information est insuffisante pour répondre à cet item, soit parce qu'il n'y a pas assez de temps pour observer la personne ou soit que l'évaluateur (trice) a une connaissance limitée de l'item concerné.

## APPENDIX F

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version finale)

Vous remarquerez une colonne à l'extrême droite servant à la cotation qualitative. La cote OUI signifie que la tâche est exécutée avec des résultats minimalement acceptables: la personne est acceptable socialement. La cote NON signifie que la tâche est exécutée avec des résultats définitivement non acceptables socialement.

Les items suivants doivent être cotés par consultation:

1. Prend un bain ou une douche au moins 3 fois par semaine	0 1 2 3 4	Oui Non
2. Se brosse les dents au moins 1 fois/jour	0 1 2 3 4	Oui Non
3. Se lave les cheveux au moins 1 fois/ semaine	0 1 2 3 4	Oui Non
4. Se rase au moins tous les 2 jours / garde barbe soignée	0 1 2 3 4	Oui Non
5. Peigne ou place ses cheveux tous les jours	0 1 2 3 4	Oui Non
6. Nettoie ou coupe ses ongles	0 1 2 3 4	Oui Non
7. Reste propre pendant la journée	0 1 2 3 4	Oui Non
8. Change ses vêtements au moins tous les 2 jours ou au besoin	0 1 2 3 4	Oui Non
9. Change ses sous-vêtements au moins tous les 2 jours ou au besoin	0 1 2 3 4	Oui Non
10. S'habille d'une façon appropriée	0 1 2 3 4	Oui Non
11. Prend soin de ses pieds	0 1 2 3 4	Oui Non
12. Enlève ses vêtements pour dormir	0 1 2 3 4	Oui Non
13. Ramasse ses vêtements souillés pour le lavage	0 1 2 3 4	Oui Non
14. Utilise laveuse et sècheuse automatiques ou fait son lavage à la main	0 1 2 3 4	Oui Non
15. Range ses vêtements propres	0 1 2 3 4	Oui Non
16. Garde ses vêtements en bon état	0 1 2 3 4	Oui Non
17. Garde ses souliers en bon état	0 1 2 3 4	Oui Non
18. Mange et boit proprement	0 1 2 3 4	Oui Non
19. Utilise vaisselle et ustensiles appropriés	0 1 2 3 4	Oui Non
*20.*		
21. Montre de bonnes habitudes alimentaires – diète équilibrée, pas d'excès de sucre et de sel	0 1 2 3 4	Oui Non
22. Se nourrit en quantités appropriées	0 1 2 3 4	Oui Non
23. Rapporte ses problèmes de façon adéquate	0 1 2 3 4	Oui Non

## APPENDIX F

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version finale)

Les items suivants doivent être cotés par observation et questionnement:

24. Achète des aliments nutritifs	0 1 2 3 4	Oui Non
25. Fait son lit tous les jours	0 1 2 3 4	Oui Non
26. Change ses draps au besoin	0 1 2 3 4	Oui Non
27. Garde ses pièces propres	0 1 2 3 4	Oui Non
28. Epoussette au besoin	0 1 2 3 4	Oui Non
29. Passe l'aspirateur ou balaie les planchers au besoin	0 1 2 3 4	Oui Non
30. Lave les planchers au besoin	0 1 2 3 4	Oui Non
31. Essuie les dégâts	0 1 2 3 4	Oui Non
32. Lave la vaisselle au besoin	0 1 2 3 4	Oui Non
33. Nettoie toilette / lavabo / bain au besoin	0 1 2 3 4	Oui Non
34. Enlève les restants de table	0 1 2 3 4	Oui Non
35. Garde le réfrigérateur propre	0 1 2 3 4	Oui Non
36. Garde le poêle et le four propres	0 1 2 3 4	Oui Non
37. Fait son épicerie selon les quantités requises	0 1 2 3 4	Oui Non
38. Achète ses effets personnels selon ses besoins	0 1 2 3 4	Oui Non
39. Achète les articles indispensables avant les articles de luxe	0 1 2 3 4	Oui Non
40. Coopère avec la personne qui donne les médicaments	0 1 2 3 4	Oui Non
41. Se montre familier avec les principes de sécurité dans la vie quotidienne	0 1 2 3 4	Oui Non

Les items suivants doivent être cotés en interrogeant la personne:

42. Utilise un désodorisant quotidiennement	0 1 2 3 4	Oui Non
43. Change fréquemment ses serviettes sanitaires durant les menstruations	0 1 2 3 4	Oui Non
44. Démonstre une connaissance minimale des principaux groupes alimentaires pour une diète équilibrée	0 1 2 3 4	Oui Non
45. Prépare des mets simples (sandwiches, café, thé)	0 1 2 3 4	Oui Non
46. Prépare des repas simples (oeufs, soupes)	0 1 2 3 4	Oui Non
47. Connait et utilise les produits nettoyants adéquatement	0 1 2 3 4	Oui Non
48. Achète ses propres vêtements	0 1 2 3 4	Oui Non
49. Paie ses comptes par chèque ou en argent comptant	0 1 2 3 4	Oui Non

## APPENDIX F

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version finale)

50. Paie son loyer par chèque ou en argent comptant	0 1 2 3 4	Oui Non
51. Possède un compte en banque	0 1 2 3 4	Oui Non
52. Montre sa connaissance des numéros de téléphone d'urgence	0 1 2 3 4	Oui Non
53. Montre sa connaissance des emplacements du Bureau d'Aide Sociale, du Bureau d'Aide Juridique, du Poste de Police du Centre de Main d'oeuvre, du Bureau de Postes, au CLSC	0 1 2 3 4	Oui Non
54. Se rend aux endroits voulus dans le voisinage sans se perdre	0 1 2 3 4	Oui Non
55. Utilise les transports publics	0 1 2 3 4	Oui Non
56. Maintient ses rendez-vous avec les professionnels de la santé	0 1 2 3 4	Oui Non
57. Peut prendre soin adéquatement de ses problèmes physiques mineurs	0 1 2 3 4	Oui Non
58. Consulte les professionnels de la santé au besoin	0 1 2 3 4	Oui Non
59. Renouvelle au besoin sa prescription de médicaments	0 1 2 3 4	Oui Non
60. S'administre fidèlement la médication prescrite à tous les jours	0 1 2 3 4	Oui Non
61. Lit des livres ou des magazines	0 1 2 3 4	Oui Non
62. Montre de l'intérêt face à un loisir	0 1 2 3 4	Oui Non
63. Fait des promenades à l'extérieur	0 1 2 3 4	Oui Non
64. Ecoute la radio ou regarde la télévision	0 1 2 3 4	Oui Non
65. Va voir des activités sportives	0 1 2 3 4	Oui Non
66. Va voir des films ou des spectacles	0 1 2 3 4	Oui Non
67. Joue aux cartes	0 1 2 3 4	Oui Non
68. Assiste à des groupes communautaires (ateliers, artisanat)	0 1 2 3 4	Oui Non
69. Lit le journal tous les jours	0 1 2 3 4	Oui Non
70. Participe à des sports	0 1 2 3 4	Oui Non

Les items suivants doivent être cotés par des mises en situation:

71. Planifie son budget	0 1 2 3 4	Oui Non
72. Peut écrire un chèque	0 1 2 3 4	Oui Non
73. Compte sa monnaie	0 1 2 3 4	Oui Non
74. Utilise le téléphone	0 1 2 3 4	Oui Non

## APPENDIX F

Évaluation des habiletés fonctionnelles dans les activités de la vie courante  
(version finale)

75. Démontre sa capacité à utiliser le bottin téléphonique	0 1 2 3 4	Oui Non
76. Demande des indications pour un itinéraire au besoin	0 1 2 3 4	Oui Non
77. Démontre sa capacité d'adresser une lettre	0 1 2 3 4	Oui Non

\*N.B. Item 20 a été érrayé de l'évaluation



## APPENDIX G

Évaluation qualitative de l'Évaluation des habiletés  
fonctionnelles dans les activités de la vie courante

1. Temps requis pour la passation:
  - 30-40 min.
  - 40-50 min.
  - 50-60 min.
  - 60-90 min.
  - 90-120 min.
  - > que 120 min.
  
2. Période de temps acceptable? Oui  
Non  
Incertain
  
3. Degré de difficulté lors de l'utilisation:
 

1	2	3	4	5
(difficile)				(facile)
  
4. A-t-elle été utile lors de la planification du traitement ?
 

1	2	3	4	5
(très peu)				(beaucoup)
  
5. Est-ce que les items ont été compris correctement ?
 

1	2	3	4	5
(pas du tout)				(définitivement)
  
6. Potentiel d'utilité générale:
 

1	2	3	4	5
(pas du tout)				(très utile)

## APPENDIX H

Table H – 1: Frequency Distribution of Diagnostic Categories (N = 150)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
bipolar	1	58	38.7	38.7	38.7
schizophrenia	2	47	31.3	31.3	70.0
schizoaffective	3	15	10.0	10.0	80.0
major depression	4	21	14.0	14.0	94.0
delusional disorder	5	9	6.0	6.0	100.0
		-----	-----	-----	
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

Table H – 2: Frequency Distribution of Civil Status (N = 150)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
single	1	101	67.3	67.3	67.3
married	2	14	9.3	9.3	76.7
separated	3	7	4.7	4.7	81.3
divorced	4	23	15.3	15.3	96.7
widowed	5	5	3.3	3.3	100.0
		-----	-----	-----	
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

## APPENDIX H

Table H – 3: Frequency Distribution of Financial Status (N = 150)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Welfare	1	77	51.3	51.3	51.3
Unemployment insurance	2	8	5.3	5.3	56.7
Pension	3	15	10.0	10.0	66.7
Working	4	42	28.0	28.0	94.7
Housewife	5	4	2.7	2.7	97.3
Other	6	4	2.7	2.7	100.0
		-----	-----	-----	
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

Table H – 4: Frequency Distribution of Educational Level (N = 150)

Value Label	*Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	.7	.7	.7
	2.00	1	.7	.7	1.3
	3.00	2	1.3	1.3	2.7
	4.00	2	1.3	1.3	4.0
	5.00	5	3.3	3.3	7.3
	6.00	4	2.7	2.7	10.0
	7.00	8	5.3	5.3	15.3
	8.00	5	3.3	3.3	18.7
	9.00	8	5.3	5.3	24.0
	10.00	11	7.3	7.3	31.3
	11.00	20	13.3	13.3	44.7
	12.00	27	18.0	18.0	62.7
	12.50	1	.7	.7	63.3
	13.00	9	6.0	6.0	69.3
	13.50	2	1.3	1.3	70.7
	14.00	10	6.7	6.7	77.3
	14.50	1	.7	.7	78.0
	15.00	12	8.0	8.0	86.0
	16.00	5	3.3	3.3	89.3
	17.00	9	6.0	6.0	95.3
	18.00	2	1.3	1.3	96.7
	20.00	2	1.3	1.3	98.0
	22.00	1	.7	.7	98.7
	23.00	1	.7	.7	99.3
	26.00	1	.7	.7	100.0
		-----	-----	-----	
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

\* Years of schooling

## APPENDIX I

Table I – 1: Frequency Distribution of Age of Illness Onset (N = 150)

Valid cases: 150.0 Missing cases: .0 Percent missing: .0

Mean	30.2067	Std Err	.8514	Min	7.0000	Skewness	.7219
Median	28.5000	Variance	108.7288	Max	62.0000	S E Skew	.1980
5% Trim	29.6852	Std Dev	10.4273	Range	55.0000	Kurtosis	.1139
95% CI for Mean	(28.5243, 31.8890)			IQR	14.2500	S E Kurt	.3936

Frequency	Stem &	Leaf
1.00	0 .	7
1.00	1 *	4
20.00	1 .	56777888888889999999
27.00	2 *	000000001111112222223444444
30.00	2 .	55555556666666777777778889999
27.00	3 *	0000000011111122233333344
14.00	3 .	55556667788999
13.00	4 *	0000022233344
10.00	4 .	5666788899
4.00	5 *	0144
3.00	Extremes (57), (59), (62)	

Stem width: 10.00  
Each leaf: 1 case(s)



## APPENDIX J

Table J – 1: Frequency Distribution of Number of Anterior Hospitalizations  
(N = 150)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	*1.00	22	14.7	14.7	14.7
	2.00	14	9.3	9.3	24.0
	3.00	10	6.7	6.7	30.7
	4.00	15	10.0	10.0	40.7
	5.00	10	6.7	6.7	47.3
	6.00	10	6.7	6.7	54.0
	7.00	7	4.7	4.7	58.7
	8.00	12	8.0	8.0	66.7
	9.00	10	6.7	6.7	73.3
	10.00	4	2.7	2.7	76.0
	11.00	5	3.3	3.3	79.3
	12.00	5	3.3	3.3	82.7
	13.00	4	2.7	2.7	85.3
	14.00	4	2.7	2.7	88.0
	15.00	2	1.3	1.3	89.3
	17.00	7	4.7	4.7	94.0
	18.00	4	2.7	2.7	96.7
	19.00	1	.7	.7	97.3
	20.00	1	.7	.7	98.0
	28.00	1	.7	.7	98.7
	29.00	1	.7	.7	99.3
	34.00	1	.7	.7	100.0
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

\*Index hospitalization

## APPENDIX J

Table J – 2: Frequency Distribution of Number of Rehospitalizations (N = 150)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	.00	74	49.3	49.3	49.3
	1.00	40	26.7	26.7	76.0
	2.00	14	9.3	9.3	85.3
	3.00	7	4.7	4.7	90.0
	4.00	6	4.0	4.0	94.0
	5.00	4	2.7	2.7	96.7
	6.00	2	1.3	1.3	98.0
	9.00	2	1.3	1.3	99.3
	13.00	1	.7	.7	100.0
	Total	150	100.0	100.0	
Valid cases	150	Missing cases	0		

